

Break

Sixth formers take over Europe...

Innovative Leicestershire seem to be unstoppable. There they are, going through agonising cutbacks in the community colleges, with heads taking early retirement like winning punters on the pools, and they have still found a way for expansion—by sending their sixth formers into Europe.

Next Saturday, 21 of their brightest and best A-level students will be moving into Quorn Hall, the county's own International Education Centre (and another Leicestershire first) together with groups of their French and German counterparts. They will spend a week living together and getting to grips in practical terms with European issues like agriculture, industry and politics.

Former Prime Minister and EEC man Edward Heath is so pleased and interested that he will launch the venture with a speech at the first night dinner on October 27. (As with the Brandt report and Third World news, he seems to strike more chords nowadays with the idealistic young than tired politicians.) From then on, however, the young people will go out and look at things for themselves, rather than sit and listen to speakers talking about them.

At 8.15 am on the Wednesday, for example, one international group will set off for Corby, the condemned steel town, with visits scheduled to the town council and social services departments, as well as the Steel Corporation. They will meet union men, managing directors, and town councillors. None of the agricultural visits will be the usual glossy PR exercises.

We want them to look at the practical problems that they will have to deal with themselves in a few years' time, and to meet the people who are handling them now," says Duncan Sidwell, who has organised the courses. As principal modern languages adviser, he is the

the first place, but a group of teachers has been meeting regularly for a year to help to plan it. The sixth formers will hold regular group discussions on what they have seen and found out, sometimes with a tutor and, on one occasion, with Bernard Crick, who will offer them several alternative futures for the world they are likely to live in.



"Don't quote me on that," as the World Bank official said to the Sun reporter. Or, in this case, a volunteer economics lecturer to a London sixth former.

man who dreamed up the venture in The French and German students are coming from the Seine Maritime and Sarreland, two areas where the country already had strong links. It was partly because these generated such a demand for exchange visits that Andrew Fairbairn, the director of education, grabbed Quorn Hall for an international centre to put foreign students up, as soon as the College of Education stopped needing it as a hall of residence.

Even so, the course was heavily oversubscribed, and they could easily have doubled the number of English students alone. Most of them are studying history, economics, English or science.

A few are still doing languages, but others have had to drop them because of that anti-European device, A-level specialisation. The idea is as much to build up their contacts with peers abroad as to preach European integration, but this time round proceedings will mostly be in English. Next time it may be French, German or Italian, since it is hoped to bring in students from Tuscany in future.

...and the media

The Batanga sugar crop has failed. Widespread famine is predicted for central Africa. The World Bank is negotiating a loan with the Batanga Government, but insists the country must back its social spending. Meanwhile, the plantation-owning multinational is reaping blind billions, and British sugar beet farmers are set to make a killing from the sudden slump in sugar supplies.

London sixth-formers turned themselves into journalists this week and reported on these hypothetical events.

In a room in the Africa Centre, in London's Covent Garden, they interviewed eight players in the global drama (the Batangan plantation

manager was a travel company owner from upstairs the World Bank official was a South African economics lecturer). They then pieced together the kind of stories they imagined different British newspapers might carry.

The pupils, who came from a mixture of London state and private schools, quickly picked up the ele-

ment government when Parliament reconvened on November 5. What is unclear is whether he will leave Brussels then, after being a commissioner for six years, or will hang on till his mandate runs out in January. The absence, so far, of any clear decision suggests that the much can be expected to happen on the European education scene for some considerable time. While Mr Brunner was away in Germany last month, his Brussels functions, which also include the community's energy and research policies, were taken over by industry commissioner Viscount Davignon, with his insatiable appetite for work. But education is known not to be one of his first priorities, especially as he will have his hands full in the coming months trying to reestablish some kind of order to the crisis-hit steel industry.

Brunner himself made very little impact since he took over as Commissioner in 1974 from Rolf Dahrendorf, who left Brussels for the London School of Economics.

Counting heads

The Law Society, which says that too many young people are becoming solicitors, seems to be doing its best to keep the number up. Mr Jonathan Clark, the society's president, told its annual conference last week that the profession was becoming overcrowded, with all kinds of undesirable effects on its standards. Three thousand new solicitors were admitted last year, and he wondered how they were all going to find jobs. Under the new examination system introduced by the society last year, all students have to take a one-year course to prepare for their finals. Apart from a few hundred places at polytechnics, the only way of doing the course is to go to the Law Society's own foundation, the College of Law. And the college has just increased the capacity of the course from 2,000 to 2,300.

Does the legal left hand know what the right hand is doing? Mr Christopher Snowling, the society's secretary, says that the college has found itself with a teaching capacity as a result of the phasing out of the old system. It will be 1982 before the last of the students who have enrolled under that system qualifies, and then, agrees Mr Snowling, the society will be able to control directly the number who are allowed to qualify.

Mr Snowling says that the Law Society is working on the manpower problem, and fixing numbers on the courses is the main weapon. Just over half of those who obtained last year's law degree went on to train as solicitors, and another nine per cent headed for the bar, but of course law—like any arts degree—could be the entrée to all sorts of jobs in industry and outside it. And here the Law Society, any better at manpower predictions than higher education generally, or indeed the DES?

The British School of Osteopathy, which moves next week to new premises in Suffolk Street, off Pall Mall, is hoping to get official approval at last from the DES.

It first applied for recognition under the Labour government, and was turned down by Curle, who is believed to be among present and past members to have benefited in the following back-pain, was sympathetic. So was junior minister Rhodes Boyson when Stanley Ford, the school's director, visited him, and hopeful that the might be designated what was less hard.

Since then the Independent College at Buckingham has been some financial support on fees, an inspection of the school's has now been arranged for this autumn.

There are no HMI attempts (evidently no call for them) so the academic standards of the course will be appraised by a of six—three put up by the an HMI as chairman. Members of the Polytechnic of Central London has agreed to put in a mission to the CNA for a course status.

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Legal doubts over excluded students

government lawyers are investigating the duties of local authorities to provide places and courses for 16-19-year-olds who want further education. The National Association of Teachers in Further and Higher Education claims that hundreds of students are being turned away from colleges because of spending cuts. David Lister reports.

Colleges turn away hundreds'

hundreds of 16 to 19-year-olds are being turned away from further education colleges because of lack of money for courses and grants, college lecturers' union claimed last week. This was despite the government's pledge to invest more in advanced education.

The Government might face an embarrassing situation because colleges are refusing to take students could be said of breaking the law. Department of Education and Science lawyers are attempting, in vain, to publish the 1976 Education Act, which says that local authorities must provide further education for all who want it.

The Warnock report on special educational needs said that local authorities had a duty "which is widely recognised" to provide for all young people who want continued education between the ages of 16 to 19 either in school or in a FE establishment.

But in their subsequent White Paper, after considering legal advice, the Government drew back from confirming the Warnock intention of FE law. Instead, they said that there was "a need to clarify the law" governing further education. However, they did not say "This will need to be part of a wider review of the framework governing the provision of state education, which are initiating discussions with the local authority and will in due course be made widely."

The confusion is similar to that at the end of last year, when the Government's White Paper on education said that local authorities had always had a duty to provide nursery provision. Suddenly a new interpretation of the 1944 Act showed that LEAs had all along been obliged to provide nursery education for children above two years old. No law was speedily amended to clarify the point. The confusion is similar to that at the end of last year, when the Government's White Paper on education said that local authorities had always had a duty to provide nursery provision. Suddenly a new interpretation of the 1944 Act showed that LEAs had all along been obliged to provide nursery education for children above two years old. No law was speedily amended to clarify the point.

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facilities for further education". A local authorities spokesman told The Times that if relevantly qualified students were turned away then someone might wonder whether the authority was fulfilling its statutory duty.

The disappointment now suffered by hundreds of school leavers is due to three factors. Local authorities are attempting to save money by insisting on minimum class sizes at colleges. So 10 students registering for a course which the authority says must now have a minimum of 15 would be transferred to another course if there were one available, or simply refused access.

Secondly, nearly all authorities have cut back on discretionary awards, on which non-advanced FE courses depend. Lastly, the bulge has now hit the age group and there are simply more students wanting to take courses than for many years. Colleges in Surrey and Kent are taking on many more non-advanced students than before, as youth unemployment begins to affect even the most affluent areas. Colleges like Redhill or Brooklands at Weybridge say they would take on more if they actually had the room.

Bletchley College, Buckinghamshire, has found the demand for general education courses so great this year that they have increased the size of their classes from 20 to 25. But they have still turned students away.

West Sussex College, which has turned away applicants for vocational courses such as catering. Some students at Mabel Fletcher Technical College in Liverpool may have to leave their courses by half-term if they do not get a grant. Liverpool education authority has put a ceiling on discretionary grants this year and has still not informed some students starting this term whether they will qualify.

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SPECIAL ANNOUNCEMENTS

THE COLLEGE
OF PRECEPTORS

General Teaching Council



In August of this year the Secretary of State for Education and Science clearly indicated that he is waiting for the Teaching Profession to take the first steps towards the formation of a General Teaching Council. Such a Council would establish teaching as a self-governing profession and undertake responsibilities similar to those of the General Medical Council, the General Council of the Bar and the Law Society.

A General Teaching Council WOULD:

Maintain a Register of Teachers qualified to practise.

Advise on Teacher Training and on qualifications for admission to the Register.

Establish a Code of Conduct and elect a Disciplinary Committee.

Have a majority of teachers elected by teachers.

A General Teaching Council WOULD NOT:

Concern itself with Salaries, Pensions, Conditions of Service, the Safety and Welfare of Teachers. These are properly matters for negotiation between employers and the various Teachers' Unions.

THE COLLEGE OF PRECEPTORS, whose Royal Charter dates from 1849, has been campaigning for a General Teaching Council for many years and believes that the Teaching Profession should take up the Secretary of State's challenge. THE COLLEGE OF PRECEPTORS, which is an entirely independent body, proposes to invite, during the coming months, interested individuals and organisations to a Conference from which it is hoped, a General Teaching Council will evolve. THE COLLEGE OF PRECEPTORS in the meantime continues the views of all teachers on this most important professional issue.

YOU are urged to fill in this brief questionnaire and to send it, or a letter, or both if you wish.

To: Robert Balchin (Chairman), The College of Preceptors (GTC), 7 Ridgmount Street, London WC1E 7AE.

1. I am in support of the creation of a General Teaching Council. ☐

2. I would like to attend a Teachers' Conference on the GTC. ☐

If you wish us to keep you informed please add:

Your name

Mailing Address

If you care about your profession, fill in this form and send it off TODAY.

NEWS



Browsing at Dyfed's only school bookshop in Tregaron Secondary. The school librarian, Mrs Mari Morgan (right) runs the shop—one answer to cash cuts. She says it will open twice a week "experimentally". Books bought at discount rates are sold at normal retail prices—profits being used for the school's benefit.

Plea to take control of education away from the cut-happy I.e.a.s

by David Lister

An impassioned plea to take control of the education service away from local government was made this week by Mr George Cooke, secretary of the Society of Education Officers which represents all the country's most senior education authorities.

Mr Cooke, a former chief education officer, said the education of the nation was "too important to be controlled by corporate politicians and bureaucrats who neither know or care what the needs and responsibilities, the obligations and aspirations of the education service really are."

While he said he did not object to the "cruel necessity" of retrenchment, he felt that since local government reorganisation and the advent of corporate management in 1974, many cuts had been made with relish rather than reluctance.

"In far too many areas since 1974 our new masters seem to have positively enjoyed the chance to savage the education service and to take education committees and their chairman and officers down a peg or two. That is what has gone most wrong since local government reorganisation—and that is

not easily forgivable," he said. Mr Cooke, who was addressing the annual meeting of the National Foundation for Educational Research on Tuesday said that while the views he expressed were personal and not an official SEO statement, they were shared by many senior education officers who were deeply worried by the lack of morale in the service and the deep disparities in provision between authorities.

To replace the I.e.a.s, Mr Cooke advocated single purpose elected area education authorities. These, he said, would ensure that the decision makers were knowledgeable and concerned about education and were not just party politicians. They would also "lay bare in all its stark stupidity the nonsense of the chief education officer being paid less than the head of institutions within his command."

A major new project to develop a central computer information system mainly for use by education authorities will be launched by the National Foundation for Educational Research in January, writes Diane Spencer. Speaking at the foundation's annual conference in London this week, Mr Alfred Yates, the director, said the project could be one of the

most valuable services that the NFER could offer to its members. Mr Mark Carlisle, the Education Secretary, told delegates that he shared the belief that it was potentially very valuable project and that it would be funded by the department for four years with a total of just under £200,000.

The project will be called Exchange of Management Information on Educational Policy Practice and will be run by a staff and a group of part-time consultants with Mr George Cooke as the principal adviser.

An exciting development of "do-it-yourself" service for researchers is also being offered by the NFER, said Mr Yates. It is a service for teachers and school managers who want to find out more about their own schools and the schools of other schools.

Mr Carlisle warned that teachers in special schools set their sights too low for their pupils. He said that the results are being achieved by making handicapped children more and more "normal" by their own efforts and devotion. He said that the results of the children's efforts are being used to give them a stimulus and challenge to which they are capable of responding.

Mid career adjustments

The Government this week unveiled its policy promoting mid-career vocational education courses in universities and colleges.

A discussion paper issued last week by the Department of Education, Post-experience Vocational Provision for those in Employment, urges that such courses which could include technical language and managerial skills should be promoted vigorously in institutions of higher and further education.

However, the paper stresses that the state will not meet the full costs involved. The Government expects employers to pay fees.

A plea for the retention of adult education colleges which run short courses was made this week by the National Institute of Adult Education. The institute says in a pamphlet that seven of the 40 colleges were closed last year and three more are now under threat. "The pamphlet says that 80,000 people use the colleges each year and calls for specific grants from Government for the colleges."

Language double

Vietnamese refugee children who have been rehoused in Gwynedd, North Wales, will be expected to learn Welsh as well as English in keeping with the county's bilingual policy.

Top posts should be on fixed contracts, deputy heads told

Fixed-term contracts should be introduced for senior teaching posts, a conference of deputy heads told this week.

Mr Francis Casey, deputy headmaster of Chichester High School for Boys, was speaking at the Secondary Heads Association area conference for deputy heads from the south and south-west region in Southampton on Tuesday.

He said there were signs of a mounting building up for the regular assessment of teachers and headteachers of incompetent members of the profession.

Whether or not a realistic move is made towards assessing the per-

formance of all school teachers seems reasonable to suggest that the NFER, said Mr Yates. It is a service for teachers and school managers who want to find out more about their own schools and the schools of other schools.

"As we move closer to a new profession in which the graduates of the profession should be able to look forward to a career with a high status, regular reviews of their performance are essential."

Jobs scene slightly better

More than a fifth of the teachers who completed their initial training in non-university institutions in 1979 were still unemployed, or working in non-teaching jobs by the end of the year. This represented a slight improvement over the previous two years.

The leavers who had taken post-graduate training courses (PGCE) and Bachelor of Education courses were more successful at finding teaching employment than those who held a Certificate of Education. Three-quarters of PGCE and BEd leavers had found posts compared with two-thirds of CertEd holders. Graduates were also less

likely than non-graduates to take jobs other than teaching. This information is given in the latest statistical bulletin from DES. "Employment of Teachers."

The number of female graduates has risen by 70 per cent over the past 10 years, compared with a 14 per cent increase for males. The DES also shows that the number of new entrants to the profession fell by 5 per cent between 1978 and 1979, with a percentage sharp fall of 10 per cent in the number of under-graduates.

NEWS

Assistant Masters and Mistresses' conference Outline soon for national curriculum, says Lady Young

By Richard Garner

A major government statement will be published towards the end of the year outlining ideas for a national curriculum for schools. Baroness Young, Minister of State for Education and Science, told the Assistant Masters and Mistresses' Association assembly this week. She said she would outline a programme of action for schools and recommendations for local education authorities. She hinted it would also contain proposals for a "larger common programme for secondary schools".

Figures showed that 9 per cent of boys and 17 per cent of girls were studying science at all in their

fourth and fifth years at school. Lady Young said consultations had shown the idea was "widely welcome" and dismissed as "unfounded" fears from teachers' union leaders that government intervention could only be at the expense of the teachers' professional responsibility.

The statement would have three main aims: to plan for a multi-racial society; to take account of new technological developments and to cater for the changing needs of women in society removing the danger of girls inhibiting their career opportunities by "making unwise choices under the influence perhaps,

of traditional patterns of education". Baroness Young said that while it was right that secondary school pupils should be able to exercise a degree of choice in later years, an "unlimited free choice, paradoxically, does not ensure the freedom to choose in later life".

She said it was right for the Government to take the lead in giving a view, "not in any prescriptive sense, but as a means of guiding and assisting schools". She added that teachers might have to become more versatile to cope with the common core of subjects as school rolls fell. This would have an effect on the training system.

Call to look into 'monopoly promotion'

Delegates called for an investigation into promotion practices after a teacher claimed that "the promotion game is rather like Monopoly, but there is more than money involved."

Miss Jackie Kenyon, of Westlands School, Slingsbourne, Kent, proposed a motion calling on the union to "oppose the establishment of a rigid contract for as diverse an occupation as teaching". Delegates agreed that they should proceed to the next item without a vote so as not to tie the hands of union leaders in further discussions.

Mr Mark Carlisle, of Northampton School for Girls, Kent, cited the case of a married woman principal who had been in the same post for 10 years. He said that the school was going to be closed and the principal was going to be redeployed.

Mr Carlisle warned that teachers in special schools set their sights too low for their pupils. He said that the results are being achieved by making handicapped children more and more "normal" by their own efforts and devotion. He said that the results of the children's efforts are being used to give them a stimulus and challenge to which they are capable of responding.

Mr Geoffrey Borne, joint general secretary of AMMA, said that the system of setting up staffing establishments for individual schools may have to replace the present points system which determines many senior teaching posts.

Pay unit urged

Independent pay research unit urged teachers to set up a production unit for teachers' salary negotiations, the conference decided. Delegates also called on the executive to press for a financial deal for long-serving teachers by restructuring pay grades.

Reluctance likely on exams

Teachers may be reluctant to enter their examinations once schools are forced to publish their examination results, said Miss Ann Gray, president of the 90,000-member Assistant Masters and Mistresses' Association.

In her speech to the association's annual conference, Miss Gray said that teachers must accept the fact that any future government would have to take away teachers' rights to control their own schools. She said that teachers should be prepared to accept the fact that the public has a right to know the results of their children's examinations. She said that the fact is that the public has a right to know the results of their children's examinations. She said that the fact is that the public has a right to know the results of their children's examinations.

Sidestep on plans for new contracts

Delegates deftly sidestepped any decision over the discussions on proposed new contracts for teachers—now on between a working party of teachers' union leaders and the government—when debating a motion urging the union to "oppose the establishment of a rigid contract for as diverse an occupation as teaching". Delegates agreed that they should proceed to the next item without a vote so as not to tie the hands of union leaders in further discussions.

Teachers need sabbaticals to re-charge

Teachers should have time off "to recharge their batteries", the conference was told. Mrs Pamela Maryfield from Hampshire argued for adequate supply cover and financial support for teachers to have time off and go on in-service training courses.

She said: "Let us have sabbatical terms—let us not have these just as the privilege of colleges and polytechnics. We want a pool of supply teachers—well paid, scale 2 or scale 3—in every local education authority. It should not just be a cobbled-up job of sitting in front of a class."

Mr Geoffrey Borne, joint general secretary of AMMA, said that the system of setting up staffing establishments for individual schools may have to replace the present points system which determines many senior teaching posts.

Mr Geoffrey Venn, from Bedfordshire, added: "What other group of workers would be expected to give up holiday time in order to undergo training and then be asked to share part of the burden of the cost? I don't think there is another group of professionals which would tolerate such a state of affairs and I frankly am not prepared to tolerate it any longer."

The motion was overwhelmingly carried.



Lady Young—common programme

Schools are 'ripped off' on supplies

A government investigation into prices charged for school science equipment and the purchasing policies of local education authorities was demanded after a teacher had claimed schools were being "ripped off". Mrs Doris Smith of Roseland School, Tregony, Cornwall cited the case of a standard-sized beaker—the price of which had varied in separate catalogues by as much as 32p or 70 per cent.

In other cases, she added, junior schools were being charged twice as much as senior schools for the same type of laboratory equipment.

"In these days of cuts this kind of difference in price is undesirable", she said. "Some local education authorities actually stipulate from which company articles should be purchased. The Government should be urged to look into the whole matter of purchasing regulations of local authorities so schools can be sure of a fair price and the ability to buy from the cheapest source."

Delegates voted unanimously to instruct the union's executive to investigate the "exorbitant cost of laboratory supplies and other school equipment" and local authority purchasing methods.

Personal column

Mary Warnock Diminishing returns

Recently, staying in a hotel in Plymouth, (mercifully at the IBA's expense, not my own) I was goaded into filling in one of the guestbooks thoughtfully provided in every room for guests. They contain such questions as "Was your welcome friendly?" and "Do you think the hotel offers good value for money?"

The first of these questions was absurd, because I had no welcome, and would have been amazed if I had. The second seemed to me rash to the point of lunacy since the answer was so manifestly that it did not. What finally pushed me over the edge and made me fill up the questionnaire was that breakfast—

not included in the price of £25.50 for a single room for one night, costing indeed an extra £1.95—consisted of tepid coffee, enough for one cup, a sticky sweet bun, marmalade, and butter.

However, the point of this story is that I got a letter yesterday from the headquarters of the hotel group, regretting that I had not enjoyed my visit to Plymouth, but expressing surprise and some scepticism, because they said they had never had complaints of this kind before.

There is a serious issue here. People just do not complain enough. The other day, for instance, the Advertising Standards Board, composed jointly of advertisers and television people, argued in public that there could not be anything much wrong with the way women are presented in television advertisements, because so few complaints about it are ever sent in. Similarly, the IBA Complaints Review Board are sometimes surprised that no complaints are made about some particular programme that may have seemed to us very near the limits of acceptability; and there is a tendency to say "Oh well, it can't really have been as violent/crude/obscene/biased as we thought."

But of course this is nonsense. People don't complain about what they see on the television screen, because it is what they expect to see. It is tremendously difficult to abstract oneself from the normal, the expected and the everyday in order to question it.

To do so is to embark on the kind of exercise urged on us by the essentialist philosophers of the 1940s and 1950s: to stand back and inquire whether it is really true that we cannot change things. We protest that we have to do this

its content? We live in a pluralist society, as we are constantly reminded. To each his own morality. But of course this is very much more easily said than done. There is no such thing as a "moral sentiment" or feeling that does not express itself in universal terms. To say "it is wrong" means "it is generally or absolutely wrong". It does not mean the same as "I don't like it". It contains very little reference to me at all.

We know both that standards differ, and that the standard we hold to be right ought to be universally adopted, and that those who do not adopt it are wrong (even if the matter is trivial, and we do not much mind their being wrong).

We think everyone ought to be allowed to make up his own mind about what is right and wrong, good taste or bad; but we also think it would be better if everyone's eyes were opened to the superior standard we think ought to be imposed. They shall be protected from the evils of sexism (or violence), whether they see them as evils or not. It is for their good. It is the Moral Law.

If there is a genuinely no consensus on the content of this law; if one view is really as good as another, both about morals and about taste, how is change or control rationally to be defended? I do not think we have yet come very near a theoretical solution to this dilemma.

But there are various ways to approach a practical solution, which is infinitely more important. One of these ways is that people should complain more about what they find unacceptable, whether in the prices of hotel rooms or the standards of advertising, or the portrayal of violence on the screen or anything else.

And they must begin to learn to judge such complaints while they are still at school, and can be helped to keep their eyes and ears open, to look about them and realize that things are not inevitably as they are. If a new generation of people left school as serious, dedicated complainers, the argument that everything must be all right because no one has complained would be more respectable. In practical terms, consensus might be achieved through a sensitive response to rational complaints. The lesson is clear. I was morally right to fill in my questionnaire. What a comfort.

Oxford and Cambridge awards 1979-80

This analysis of scholarships and exhibitions awarded by the colleges at Oxford and Cambridge Universities in the academic year 1979-80 follows the established pattern included in the tables are awards won by both men and women. The totals include awards made at the time of entrance only and exclude awards made to people already in residence at a college.

It must be emphasized that there are fewer awards available for competition by women and in consequence awards are considered to be more difficult to achieve. This situation has improved steadily in recent years with first Cambridge colleges and more recently Oxford colleges making awards to both men and women. The outcome is that there are now very few single sex colleges remaining at either university.

After last year's very significant increase the numbers of women winning awards at both Oxford and Cambridge has stabilized. In fact numbers are down at both universities by comparison. At Oxford 212 women won awards compared with 251 last year and 146 in 1977/78. At Cambridge the number of women winning awards was 139 compared with 166 last year and 168 in 1977/78. Five years ago Cambridge made 41 awards to women so the recent changes are very apparent. Overall this year there have been 66 less awards made to women by the two universities. The actual figures being 351 awards made this year to women compared with 417 awards in 1978/79, 314 in 1977/78, and only 257 in 1976/77. Oxford University awarded 89 scholarships (including four restricted awards) and 123 exhibitions (including four restricted awards) to women. Cambridge University awarded 30 scholarships and 109 exhibitions to women this year.

The distinction between open and restricted awards is retained. The qualifications relating to restricted awards are many and varied. A typical example is the award "closed" to a particular school, but there are many other restrictions, such as the county of birth or residence of the candidate and in some cases restricted to certain parental occupations, most usually to children of clergymen.

In some instances awards have been published without mention of restrictions, and the classifications have been determined by tracing the description of the awards as given in the original advertisement. Inevitably some discretion has been exercised, but an endeavour has been made to remain consistent. The restriction of an award refers only to the limitation of the field of eligible candidates. This does not imply any inferiority of status either of the award or of the successful candidate. Some restricted awards have ultimately been made open due to the lack of suitably qualified candidates. Such awards have, of course, been shown in the open category.

This year Oxford made 87 restricted awards (48 scholarships and 39 exhibitions). In 1978/79 they made 88 restricted awards (47 scholarships and 41 exhibitions). For the second successive year Cambridge University made nine identical restricted awards (one scholarship and eight exhibitions).

The total of awards generally was down this year from 1,750 in 1978/79 to 1,706. In Table 1 results are analysed according to the type of school from which the award winner came. Altogether 1,610 open awards were made compared with 1,653 in 1978/79 and 1,575 in 1977/78.

As the 1,706 awards were shared between 601 different schools, it is obviously not feasible to list them all here. Only schools which achieved a combined (open and restricted) total of at least four awards have been included in Tables two and three.

Table two lists these 119 schools in the order of the number of open awards achieved. Columns two and three give the number of students at the beginning of the academic year 1979-80 who were engaged on post O level work. The numbers are recorded only to illustrate the comparative size of the schools which the award winners came from.

Table three lists in the order of achievement the number of restricted awards won by those schools included in Table two.

Keith W.

TABLE 1

OPEN AWARDS					RESTRICTED AWARDS					
School type	Oxford		Cambridge		Total	School type	Oxford		Cambridge	
	Schools	Exhibits	Schools	Exhibits			Schools	Exhibits	Schools	Exhibits
G	84 (81)	119 (123)	68 (66)	133 (133)	390 (411)	I	21 (22)	11 (14)	1	7
I	130 (129)	149 (142)	137 (152)	231 (242)	647 (665)	II	19 (12)	18 (16)	1	1
II	102 (102)	94 (95)	78 (77)	110 (114)	384 (388)	C	2 (3)	4 (2)	1	1
III	39 (34)	47 (57)	23 (25)	47 (47)	156 (163)	D	48 (47)	39 (41)	1	8
C	5 (8)	9 (2)	6 (8)	13 (13)	33 (26)					
Total	360 (354)	418 (419)	313 (336)	519 (544)	1610 (1653)	Total	48 (47)	39 (41)	1 (1)	8 (8)

The previous year's figures are shown in parentheses.
G—Generalist grammar school.
I—Independent school.

DC—Direct grant school.
C—Comprehensive school.
O—Overseas school, other university or tutorial establishment.

TABLE 2
OPEN AWARDS

Pupils post O level Sept 1979					Oxford	Cambs	Pupils post O level Sept 1979					Oxford	
School	Boys	Girls	Schools	Exhibits	Total	School	Boys	Girls	Schools	Exhibits	Total		
Eton College	644	—	9	9	12	36	Rossall S. Fleetwood	167	5	2	1	7	
St Paul's	406	—	6	9	6	27	St Benedict's S, Ealing	174	14	1	3	17	
Dulwich College	471	3	7	6	5	8	Stonyhurst College	204	—	1	1	2	
Harrods' Aske's S., Eloste	349	—	7	2	10	7	26	Varndean Sixth Form Coll.	169	135	2	3	
Manchester Grammar S	537	—	5	6	5	8	24	Whitgift S, Croydon	122	—	1	1	
King Edward's, Birm'ham	223	—	3	4	11	2	20	William Ellis	189	29	2	1	
Westminster	226	75	7	3	1	8	20	Alley's S, Dulwich	265	2	1	3	
Bradford G S	373	—	3	6	2	6	17	Bedford	122	—	2	2	
Marlborough College	394	101	4	5	5	1	16	Downside	195	54	1	1	
Winchester College	407	—	2	3	6	6	15	Hallebury College	153	13	1	1	
Nottingham H S	235	—	1	3	3	6	15	Ipwich	125	—	1	1	
St Paul's Girls' S	—	207	1	4	3	4	7	15	King's S, Chester	273	38	1	1
Newcastle Royal G S	270	—	1	2	2	3	5	14	Lancing College	298	1	1	2
Charterhouse	352	46	3	3	1	6	13	Latimer Upper	272	122	1	1	
St Alban's	227	—	2	2	2	4	5	13	Mill Hill	180	23	1	2
Birkenhead	226	—	2	2	2	2	5	12	Nottingham H S for Girls	127	1	1	2
Choltenham Ladies' C	—	291	3	5	3	3	12	Perse S for Boys, Cambridge	300	300	3	3	
City of London	254	—	2	2	6	3	11	Queen Elizabeth's G S, Blackburn	300	35	4	1	
King's Coll S, Wimbledon	258	—	2	8	1	8	11	Regent	242	42	1	1	
Leeds G S	293	—	2	3	2	2	7	Royal Belfast Acad Inst	278	1	1	2	
Sevenoaks	308	—	7	1	3	3	11	Shorborne	242	—	1	1	
Trinity S, Croydon	222	70	2	3	2	3	11	St Bartholomew's, N'bury	231	23	1	1	
Ampleforth College	240	—	4	3	—	3	10	St Peter's, York	157	1	1	2	
King Edw VI, S'hampt'	245	—	4	1	2	3	10	Tiffin S, Kingston-on-Th'ms	256	1	1	2	
King's S, Canterbury	315	70	2	2	2	2	10	Tonbridge	301	1	1	2	
Rugby	355	41	—	1	3	6	10	Woking College	304	344	1	1	
Aylesbury G S	280	—	3	2	4	1	9	Wolverhampton G S	169	1	1	2	
High Wycombe Royal G S	376	—	2	2	1	3	4	Wycombe H S	145	293	1	1	
Malvern College	269	—	1	3	3	4	9	Wyggeston and Q Elizabeth	370	130	1	1	
University Coll S, Hamp'td	220	—	1	2	2	2	4	Leicester College	280	1	1	2	
Warwick	108	—	1	5	1	3	9	Bournemouth	120	122	1	1	
Wellington College	328	42	2	1	4	2	9	Chislehurst Hulme	215	15	1	1	
Beaumont College	287	17	1	1	1	1	6	Cheltenham G S	189	97	1	1	
Clifton College	306	—	1	1	1	1	6	Chislehurst and Sidcup G S	271	20	1	1	
Deerborough S, Maidenhead	159	—	1	1	3	4	8	Chislehurst Academy	140	150	1	1	
Dr Challoner's G S, Reading	316	—	4	3	1	1	8	Harrogate G S	169	2	1	1	
Lancaster Royal G S	221	—	1	2	—	5	8	King Edw VI, Chelmsford	244	1	1	1	
Loughborough G S	255	—	2	2	3	1	8	King's S, Macleod	156	1	1	1	
Shrewsbury	255	—	4	2	2	2	8	Leeds S (Girls' Div)	156	1	1	1	
St Peter's, Bedford	235	—	3	1	3	3	7	Malvern Girls College	155	155	1	1	
Bolton (Boys' Division)	155	—	79	1	1	2	3	Putney H S, GPDS	108	10	1	1	
Bryanston	321	—	3	1	2	3	7	Queen's College, Taunton	102	102	1	1	
Harrow	170	—	3	1	2	2	4	Rodland S, Bristol	156	1	1	1	
Leys S, Cambridge	204	—	52	3	2	2	7	Relgate College	201	1	1	1	
Salisbury	178	—	2	2	3	2	7	St Dunstan's Coll, Bedford	263	1	1	1	
Birkenhead H S, GPDS	293	—	37	1	1	1	6	Uppingham	230	1	1	1	
Bratton S G S	439	—	3	3	1	1	6	Walsingham	165	200	1	1	
Coveyry	220	—	45	1	1	1	6	William Hulme's G S, Manchester	160	37	1	1	
Cranleigh	124	—	9	1	1	1	6	William Parker S, Hastings	168	16	1	1	
Silham College	162	—	12	2	2	2	6	King's College, Taunton	168	16	1	1	
Wymers College, Hull	125	—	62	1	2	1	6	Kingston G S	320	145	1	1	
King's S, Bath	102	—	12	2	2	1	6	Malden G S	219	1	1	1	
King's S, Worcester	199	—	39	1	1	1	6	Perse S for Girls, Cambridge	208	1	1	1	
Merchant Taylor's S, Northwood	224	—	1	2	2	3	6	Q Elizabeth's G S, Wakefield	208	1	1	1	
Oxford S S, GPDS	288	—	1	2	1	2	6	Glenalmond (Trinity Coll)	208	1	1	1	
Radley College	288	—	1	2	1	2	6	Judd S, Torquay	190	1	1	1	
								Portsmouth G S	190	9	1	1	

TABLE 3

RESTRICTED AWARDS					RESTRICTED AWARDS				
School	Oxford	Cambridge	Total		School	Oxford	Cambridge	Total	
Westminster	3	2	5	7	Bolton S (Girls' Division)	1	1	2	3
Eton College	3	2	5	7	Cheltenham GS	1	1	2	3
Bristol GS	3	2	5	7	Dulwich College	1	1	2	3
Harrow	3	2	5	7	King's College, Taunton	1	1	2	3
Wymer's College, Hull	3	2	5	7	King Edward VI S, Chelmsford	1	1	2	3
Kings' College, London	3	2	5	7	King's S, Canterbury	1	1	2	3
Queen Elizabeth's G S, Wakefield	3	2	5	7	Kingston GS	1	1	2	3
Bradford GS	3	2	5	7	Lancaster Royal GS	1	1	2	3
Charterhouse	3	2	5	7	Malden GS	1	1	2	3
Coveyry	3	2	5	7	Perse S for Girls, Cambridge	1	1	2	3
Glenalmond (Trinity College)	3	2	5	7	Rossall S, Fleetwood	1	1	2	3
Judd S, Torquay	3	2	5	7	St Alban's	1	1	2	3
Leeds S (Girls' Div)	3	2	5	7	St Paul's	1	1	2	3
Merchant Taylor's S, Northwood	3	2	5	7	Tonbridge	1	1	2	3
Portsmouth GS	3	2	5	7	Whitgift S, Croydon	1	1	2	3
Stonyhurst College	3	2	5	7	William Hulme's GS, Manchester	1	1	2	3
Abingdon	3	2	5	7					

Note: the tables refer to scholarships and exhibitions awarded in the Autumn of 1979. Only combined total in tables two and three of at least four awards are included.

School to work

Courses for new exam could be under way next year

All set for an early start

Mark Jackson

For the "Voc"—the certificate of vocational education—the Government proposes that the new certificate should be run by a joint agency with wide representation and not by the City and Guilds alone. As one senior official put it: "City and Guilds would have to be the second line on the certificate, not the single billing."

The City and Guilds director general, Mr Harry Knutton, says that it will seek consultations immediately with the Schools Council, the Royal Society of Arts, BEC, and the regional examining bodies. If it can get their agreement, says Mr Knutton, outline proposals can be given to the Ministry by the middle of next month—the deadline set for responses to the Green Paper.

Once a ministerial go-ahead is through, says Mr Knutton, Voc pilot courses could be prepared in time to be tried out in the 1981-82 school year. "We would offer them to the 500 or so schools and colleges already using the foundation courses, since they are familiar with the concepts involved," he says.

It should take two to three years to expand the scheme from the pilot stage to full-scale operation throughout the school and further education system, says Mr Knutton. That allows for a programme of training teachers in the assessment methods, which include both a written examination and local project work. The latter would use the existing techniques—largely based on weekend workshops—to train the several thousand teachers involved.

The Schools Council, whose pilot bodies have yet to discuss the Green Paper proposals—its exams committee meets next week to discuss the proposals—has already been switched to the new certificate. The Council's secretary, Mr John Mann, says that the

Department of Education and Science officials are prepared to consider proposals along these lines as long as it is clear that the new certificate will be run by a joint agency with wide representation and not by the City and Guilds alone. As one senior official put it: "City and Guilds would have to be the second line on the certificate, not the single billing."

One problem area is the implication that the new certificate is likely to have for the least able group of fifth year pupils. The Green Paper proposes that the one year certificate course should be designed for those who have some low grade CSE's. Mr Knutton has asked if it was also intended to offer the course to the 17 per cent of youngsters with no exam passes, and was told that it was to be restricted to the middle ability range.

But both he and Mr Mann consider that the existence of the new work-related certificate courses will be bound to affect the fifth year curriculum, and stimulate preparatory courses which will also be suitable for the lowest ability youngsters.

Mr Knutton envisages a linked two year curriculum, with a fifth year foundation course leading on to the one year Voc syllabus. Although the Green Paper appears to exclude the CSE boards from any part in the new certificate, the City and Guilds will bring at least some of them into its consultations. "We can't ignore those boards which have been developing CSE subjects to meet the Mansell report criteria," he says.

Mr Jack Chambers, a leading member of the National Union of Teachers executive and chairman of its 14-19 working party, made it plain this week that he will fight against the union's rejection of the Green Paper proposals. He says that teachers would be wrong to let professional politics lead them to reject "this opportunity of broadening the curriculum".

Pump £700m into help for jobless, say voluntary groups

A £700m a year programme to provide training or work for the unemployed is being put forward in a report by the National Council of Voluntary Organizations this week. It calls for provision for the Youth Service to be expanded to look after 450,000 youngsters next year, the council, whose report is being published, says that the original main objective of increasing their general employability is becoming irrelevant.

With more youngsters—including a higher proportion of the better qualified—out of work, the programmes need to offer a longer stay and provide skills training to equip them for the occupations most likely to expand.

The NCVO calls for YOF to be developed to offer education options, links between employers, work experience and other YOF facilities, more guidance to employers from those running the schemes as well as the careers service. It says that the MSC's area boards should operate more openly and encourage local committees to take part in planning.

The council has also proposed that voluntary agencies should run the schemes under contract with the MSC, so that expensive day to day supervision can be replaced by a monthly audit. Its director, Mr Nicholas Hinton, has pointed out to the Employment Secretary that this would greatly cut down the cost of the schemes. He says that the council's administrative costs, which are probably double those of the MSC, could be reduced by having a single agency to run the schemes.

Green Paper raises all sorts of issues which will have to be explored fully: the council has no experience itself of preparing work-related curricula or examinations, although it has a series of projects concerned with industry and with the least able pupils.

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THE UNIVERSITY OF MANCHESTER

DEPARTMENT OF EDUCATION

Advanced Courses for Teachers 1981-82

The following one-year, full-time courses, mainly intended for experienced teachers, are offered in the session beginning September 1981. Teachers employed by local education authorities may be eligible for secondment on salary. Certain of the M.Ed. courses are also offered as part-time courses extending over a longer period. By arrangement with the Department, students may be able to undertake some sections of certain part-time courses by either day release or on one term of full-time study.

1. Degree of M.Ed.

Applications will be considered from (a) graduates, and (b) non-graduate qualified teachers holding an appropriate advanced diploma for the following full-time (FT) and part-time (PT) programmes:—

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Assessment (FT and PT day-release. (Wednesday)) Curriculum Development (PT): Half day and evening (Wednesday)

Educational Assessment (FT and PT)

Educational Psychology (FT and PT (day))

Foreign Language Learning (PT)

History of English Education (FT and PT (half-day Thursday))

Organisation and Planning of Education (FT and PT (day or evening)) (Economic, comparative and administrative studies of education)

Philosophy of Education (FT and PT) (Special Options are available in Aesthetics, Social and Political Philosophy, Philosophy of Mind, Epistemology and Values, in relation to education)

Physical Education (FT and PT)

Reading (FT and PT)

Science Education (PT evening) for Teachers of the Sciences

United States

Additives given clean bill of health

by Clive Cookson

WASHINGTON

A popular American theory about hyperactivity—that it is triggered by artificial food additives—is not supported by any scientific evidence, according to a new report by the Nutrition Foundation. Its release immediately rekindled controversy about the causes and treatment of hyperactivity, which has long been an emotive issue here.

The report gives the results of seven separate studies of a possible relationship between artificial food colours and flavours and hyperactivity in children. The Nutrition Foundation claims that the negative results "refute a controversial hypothesis that chemical additives and even certain natural components of common foods cause hyperactivity in children, a condition that includes hyperactivity plus other symptoms such as short attention span, lack of concentration, impulsiveness, inactivity and rebelliousness."

The food manufacturers that use artificial additives are the principal source of funds for the foundation, and through it, for the \$1m survey. Because they have such a clear interest in disproving the alleged link between diet and hyperactivity, their involvement automatically undermined the review's public credibility—even though it was supervised by an independent "National Advisory Committee on Hyperkinesia and Food Additives" composed of academic scientists and physicians.

The Centre for Science in the

Public Interest (CSPI) countered immediately with a statement that the Nutrition Foundation's claims were "unscientific and irresponsible." The centre, a consumer organization often critical of big business, maintained that "the results of the studies to date indicate that food colours do cause hyperactivity problems in some children." The widespread belief that diet is a significant cause of hyperactivity dates back to 1973, when Dr Benjamin Feingold, a 73-year-old allergist from California, started publicizing a theory that about half of all hyperactive children can be calmed down "dramatically" if they are kept on a diet free of artificial food additives and natural salicylates, compounds chemically related to aspirin which occur in many foods.

After the publication in 1975 of Dr Feingold's bestselling book *Why Your Child is Hyperactive*, the parents of tens of thousands of hyperactive children embraced the "Feingold diet", as an alternative to using drugs to keep their sons and (occasionally) daughters quiet (for reasons no one understands, the condition is six times more common in boys than girls). Today the Feingold Association says that more than 20,000 American children are living normal lives without medication, thanks to an additive-free diet.

However, disbelievers have maintained from the start that the success claimed by the Feingold parents, if genuine, are probably due to a "placebo effect" and other psychological responses. If parents expect the new diet to work, they start to see the better side of their

children. Having felt frustration and guilt about disciplining their unruly children and/or giving them sedatives, they can now blame outside influences—the food additives. And, if the whole family goes on the Feingold diet to help the hyperactive child, the family unit may be strengthened and the child feel more cared for.

To exclude these effects, the Nutrition Foundation's studies were conducted under double-blind conditions. Food companies made special sweets and biscuits for the experiments. They looked and tasted identical but some contained a mixture of the manufacturers' standard food colourings, while others had no artificial additives. Therefore parents and children did not know whether they were eating placebos.

The Nutrition Foundation's advisory committee devoted seven studies, involving a total of 190 children. Eating artificially coloured food appeared to trigger a significant increase in hyperactivity in just three children, the committee reported, and it discounted them because "the deterioration is reported only by the mother with no other objective, confirming evidence available."

The Feingold Association makes a lot of Dr Swanson's results—he also reported in *Science* recently that a common food colour, red 3, affects the brain chemistry of laboratory animals—but the Nutrition Foundation claims that his doses are too large to reflect children's normal eating patterns. Dr Feingold, who is still actively promoting his theory at the age of 88, counters that the Nutrition Foundation's estimates of the average child's intake of food colouring, which formed the basis of their experiments, are only one-third the level estimated by the United States Food and Drug Administration.

What do Dr Feingold's critics think are the real reasons for hyperactivity? When pressed on this question, University of Utah pediatrician Dr Esther Wender, co-chairman of the hyperkinesia advisory committee, said it was probably caused by genetic influences on the child's development.

Many other researchers feel that hyperactivity is triggered primarily by environmental and emotional difficulties. For example education professor Nadine Lambert, whose group at the University of California, Berkeley, studied 5,000 children in Californian primary schools, found that severity of the problem was affected by home and school environments. Only one per cent of the children were regarded as hyperactive by their parents, teachers and doctors, and half a per cent were receiving medical treatment. That is much less than the usual estimate that five to 10 per cent of children are hyperactive.

Republic of Ireland

'Grandad' award blocked

by John Walshe

The Republic's three teachers' unions have unanimously rejected interim findings of a review on teachers' salaries. The unions would have demanded that older teachers be paid more than newer entrants to the profession.

The state's 35,000 primary secondary teachers are on a monobasic salary scale, with money for qualifications and experience paid as a percentage of the scale. The scale starts off at approximately £4,000 and goes to £6,320. The proposed deal would be shortened by two points, to about £4,200 and rising to £6,320.

To make up for the scarcity of promotion in Irish schools, the review recommended the introduction of "long phased increments". After three years on the teacher's salary would go to £7,080, five years to £7,708, five years to £8,080, and finally five years to a maximum of £8,500.

These long phased increments already dubbed the "grand increments" were deemed absurd by the teachers' union. They said that a teacher would be paid £8,500 before reaching the scale.

The report also recommended phasing out of a number of allowances and said that the union, substitution for the teachers' union, would have to form a part of teaching service if the salary levels were to be maintained. An early meeting has been set with Mr John Walshe, the Education Minister, to try to find out of the difficulties.

West Germany

Refusal to teach immigrants backed by court

by David Dungworth

A German court has upheld a teacher's refusal to teach immigrant pupils, in what Herr Remmers, Education Minister, Lower Saxony, has called a "singing verdict" with far-reaching implications for the education of immigrant children in West Germany.

In an interim judgment, Higher Administrative Court of Lüneburg ruled that a new law training and previous experience should not be required of teachers whose immigration status made it impossible for them to understand the content of the course.

Herr Remmers criticized the court's decision for its lack of regard for the professional status of teachers with professional training. He also accused the court of failing to understand the problems involved in educating immigrant children. He said that the court's decision would lead to a situation where teachers would be asked to teach children whose language they could not understand, and who would not be expected to learn.

The teachers' union in Lower Saxony had requested that the court should require teachers to teach immigrant children, but the court rejected this request. The court said that the teachers' union had not provided sufficient evidence to show that the teachers were capable of teaching immigrant children. The court also said that the teachers' union had not provided sufficient evidence to show that the teachers were willing to teach immigrant children.

OVERSEAS NEWS

New Zealand

Maori report calls for urgent response to rising racial tensions

by Lindsay Hayes

Maori pupils are not inspired by school and teacher ignorance of Maori life is working against them, according to a long-awaited report. The National Advisory Committee on Maori Education (NACME) has issued its report, *A Way Ahead*, intended to determine the direction of Maori education in the 1980s.

The blueprint, which comes 10 years after the committee's last report, has a sense of urgency. It points out that New Zealand's racial tensions which the committee says are now closer to the surface. The committee produced 87 recommendations. Its chairman, former Assistant Director-General of Education, Mr Peter Bos, says that the report's purpose is to help those who are acting upon it quickly.

He focuses on five areas: preschool, Maori language, the quality of teaching, schools better suited to Maori needs and continuing education. Some of the new proposals will need major funding by the Government. These include: the appointment of Maori and Pacific Island education inspectors in each education region; increasing the number of itinerant teachers of Maori (now

about 40) to 100 by 1984; the appointment of guidance counsellors to intermediate schools with large Maori rolls; sponsorship for adult Maoris to undertake second-chance education, and the provision of Maori meeting houses, at all teachers' colleges.

Apart from the funding implications, the report points to the need for a change of attitude on the part of educational administrators, teachers and the New Zealand public. The committee wants schools to encourage teachers to join Maori organizations, and Maoris to use school buildings. Among the more immediate calls, such as a mandatory 30 hours of Maori studies for all trainee teachers, are simple suggestions which would seem easily implemented. One proposal asks schools to use Maori motifs in their decorations as a "positive welcome" to Maori pupils.

School and teaching improvements are viewed as the areas of most urgent need. They are the subject of the bulk of the recommendations and committee criticism. "A disproportionate number of Maori pupils are under-achieving at school—and this has been so for too long without enough being done to put it right."

Australia

Teachers should have term of study every seven years

by Bill Purvis

SYDNEY

The first national inquiry into teacher training in Australia has recommended that teachers be allowed one term's study-leave every seven years.

This is one major recommendation in a list of 38 contained in the Auchmuty inquiry's report into teacher education. It comes at a time when gubernatorial leave for academics at tertiary institutions is under review.

The inquiry, chaired by Professor James Auchmuty, former vice-chancellor of the University of New South Wales, was initiated in November 1978 and presented its 267-page report recently.

It estimates that the cost of its recommendations would be between \$100m and \$125m (£50-62m). The most expensive item is the sub-bachelor leave proposal. Another recommendation, estimated at \$10m a year, proposes that tertiary institutions provide special courses as part of a programme for continuing education for teachers.

recommendations immediately. However, there is unlikely to be any action until the state governments have had a chance to analyse and discuss the report.

The Australian Education Council, formed of the state and federal ministers of education, is scheduled to meet in Hobart in February when the report is expected to be one of the main topics on the agenda. In Australia the states are responsible for staffing government schools, so although the Federal Government provides the tertiary institutions which train the teachers it is the state education departments which set the standards of entry to the profession and more importantly, decide who will be employed in government schools.

With several thousand unemployed teachers looking for jobs this year's crop of graduates face an average of four years on a waiting list after passing their final examinations. Even mathematics and science teachers, previously the elite among graduate teachers, are being advised to think about overseas positions to gain experience.

The Auchmuty report recommends that future intakes should be of a higher quality, and better trained. Among the recommendations are: most would-be teachers should be academically in the top 25 per cent of their age group and this standard should not be lowered to maintain numbers.

● a national advisory body on teacher-education should be set up to monitor training and should hold a general assembly to discuss the topic every three years.

● every teacher should be given the opportunity to attend at least five days of in-service education every year.

● a chair of early childhood education should be set up at a university.

● special provision should be made for entrants of mature age, or from Aboriginal or non-English speaking backgrounds. These entrants should be valid at least the minimum wage while studying.

The committee failed to agree on a proposal that by the mid-1980s every new teacher should be a graduate of a four-year course. That proposal, which would have produced varied results, was not included in the final report. This topic, along with the sub-bachelor leave proposal, will be keenly debated at the ministers' meeting in February.

The teacher unions are now studying the report and will formulate their own responses to a report which is expected to have a permanent impact on teacher education in Australia.

India

Planners make preschool a priority

by A. S. Abraham

BOMBAY

For the first time Indian planners have suggested pre-school education should be given priority in the country's educational budget allocations.

The sixth five-year plan (1980-85) which is currently being finalized and is scheduled to begin early next year, a year late, suggests India should spend \$2,000m on education over the next five years.

The planning commission calculates that state investment in education should be at least 6 per cent of national income, a proportion that has been accepted theoretically since 1969, but which has never yet been achieved.

The commission's education division has emphasized the importance of pre-school education. "The pre-school stage of a child is the period of its maximum learning and intellectual development and hence of great potential educational significance," it has said.

The National Council of Educational Research and Training (NCERT), a federal body that advises on school education policy, has been influential in making the planners include pre-school learning in their calculations.

According to NCERT estimates, 21 per cent of the country's total population of 600m is under six years of age. This amounts to 126m children.

The commission sets aside about half the proposed education allocation for primary education, about one-seventh for higher education and a little less than one-seventh for secondary education. A little more than \$100m has been suggested for adult education, essentially adult literacy.

Traditionally, final education budgets are a much slimmer version of their original form. Within that, primary and to a lesser extent, secondary education tend to lose out in the end to higher education. Now that the tentative allocations have been made known, the influential and vocal higher education lobby will get to work to try and obtain a much bigger slice of the resources cake.

Malaysia

British businessmen asked for help

British business concerns in Malaysia are being asked to help Malaysian students study in Britain under the system of steep new tuition fees for overseas students. Letters of appeal have been sent to 165 British industrial and business concerns in Malaysia from the Malaysian Students Societies' Council in the United Kingdom and Else, asking for donations for the proposed Anglo-Malaysian Foundation, a new fund to help Malaysian students in Britain.

Its organizers hope that it will be able to offer financial help to students already in difficulties, as well as to new students, within the next year.

As a result of the increase in fees for overseas students, applications from Malaysian students to go to British universities have dropped by two-thirds this year, and the number of Malaysians now hoping to study in the United States has risen by 45 per cent.

More than half of the 4,000 Malaysian students in the United States are government-sponsored. The applications from private students are expected to double this year to about 400.

Canada is equally popular, with applications more than 50 per cent

Malaysian applications to study in the UK are down by two thirds. Canada, USA, India and New Zealand are popular alternative destinations

higher than last year and interest in secondary and higher education there growing all the time. More than 3,000 Malays will be going to Canada next academic session, of whom about 150 will have Canadian scholarships.

There is also increasing interest in study in India and New Zealand but contrary to expectations, applications to Australian universities have dropped this year.

One consequence of the new situation is that more Malaysians are now interested in learning other foreign languages. Instead of English, especially German and French, but also Japanese and Hindi, many figures at both the Alliance

Francise and the Goethe Institute in Kuala Lumpur have risen sharply this year.

There are already between 300-500 Malaysian students in West Germany where the cost of one year's study is estimated to be half of that in Britain and the West German Government has recently offered "unlimited" research scholarships in science and engineering to Malaysian students with the required postgraduate qualifications.

Belgium is planning, as a new departure, to offer up to five scholarships a year for undergraduate medical studies.

Following the Malaysian Government's recent rejection of a plan to start a Chinese university, the Malaysian Chinese Association has announced the start of a university education fund so that its members can send their children to study overseas.

This would involve up to 1,000 students a year, many of whom would follow tradition and go to Britain.

Contributors would be eligible for a four-year loan after five years of subscription. A large proportion of the 17,000 Malaysian students currently in Britain are Chinese speakers.

BEC

Budget pruning by ministers threatens cooperation plans

by Rory Watson

The European Community's chances of expanding its educational projects have received a setback with the agreement of BEC budget for 1981 to slash next year's budget from £2.5m to £1.5m.

The cuts were merely one casualty of the insistence of the nine Common Market governments, urged on by France and Germany, on cutting 1981 expenditure. They said that, with its limited financial resources, the BEC would otherwise have had to cut its other activities within 12 months.

already been condemned by the European Parliament which, aware of budgetary powers with governments, and it is widely expected that the MEPs will decide to increase next year's education budget to something nearer £2m by the time the BEC's budget procedure is completed shortly before Christmas.

Meanwhile, The European Commission has awarded a further 85 grants to institutions of higher education in the community and 459 grants to teachers and specialists for short educational study visits, ranging from one to four weeks.

Poland's universities open up again—to a changed world

Freedom: can the students handle it?

by a special correspondent

The Polish university year began this month in a flurry of political activity which reflected the general upheaval of the country. The new unions flexed their muscles and in some cases took the opportunity to revive past scandals.

At Cracow, a three-hour meeting of one new faculty union resolved that future voting should be by show of hands, since secret ballots are widely known to have been fiddled in the past.

It demanded that university rector and deans should be elected by the universities and no longer selected by the Ministry of Education in Warsaw, and that the academic reasons for the selection of professors should be disclosed.

Party members are known to elect chairs faster than non-party members, many of whom felt to be unfairly treated in spite of their qualifications. Even candidates for PhDs to which final admission is rubber-stamped in Warsaw, can sometimes find themselves rejected on political rather than academic grounds.

The Cracow lecturers also took the opportunity to air past grievances. One admission to an honorary degree was questioned, and it was suggested that an enquiry into the death of a student who fell from a building while being questioned by the police should be reopened.

Meanwhile, the students at Cracow were also demanding more freedom to choose their own professors, as well as a five-year course of study instead of the present four years. At Gdansk the concern of the new lecturer and student unions was whether they should seek affiliation with the high-sounding Polytechnic or with other universities. Many members favoured affiliation with the city's shipyard workers who joined in the one-hour strike called on October 31.



Gdansk workers led the strikes which have set Poland on a new course. But are older academics right to be pessimistic about the destination?

representatives of the old and new unions sat side by side, and the representative of the old official union made an impassioned speech, pleading with new students to join his organization.

A commission is now at work drafting new university statutes to govern the free elections of rector and deans to their posts, but there is nevertheless pessimism among senior academics who remember the events of 10 years ago and the invasions of Czechoslovakia and Hungary.

The commission is working at speed because it hopes to get legislation through Parliament on the current wave of popular feeling, but there are fears that Poland's eager half a million students, who do not remember the repression of a decade ago, will act precipitately and push the Government into a hasty decision.

The new "free" year was inaugurated with the usual ceremonies, enlivened by some new additions. On the platform the



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LETTERS

Are students choosing right BED career?

Sir—Not all polytechnics earn the judgment implied by your report headlined "Students shun BED courses at Poly" (October 10). Your report nowhere mentions a crucial new development. The DES circular of July 21 to all teacher-training institutions urges a restructuring of the existing targets of teachers produced, with a concentration on shortage subjects. In terms of these new targets, Leicester Polytechnic (whom you chose to mention) has recruited extremely well, with for the first time a majority of students studying shortage subjects, and gratifyingly large groups in mathematics and the physical sciences.

Moreover, our new teacher-education degrees (BED, BSc combined studies) from September next year concentrate on producing secondary school specialists in mathematics, science, French and home economics, for which we know there is persistent demand in schools. And our new BED programme for intending primary teachers reflects the DES circular's new emphasis on primary "semi-specialists".

In terms of these new priorities, our BED courses are recruiting exactly as the DES would want us to.

Professor JOHN HONEY,
School of Education,
Leicester Polytechnic.

Sir—I was saddened to see the melodramatic headline with which you introduced your note about admission to teacher training ("Students shun BED courses at Poly", October 10). The inference that the polytechnics were being singled out for rejection by intending students is based on so little evidence that it is little more than a professional journal to suggest it. Responsible reporting would have suggested caution until the full facts are known and properly analysed. The rate of applications during the past year has pointed to a substantial shortfall of between 40 per cent and 50 per cent in the total number of admissions to BED courses this autumn. This represents about twice the rate of decline in recent years, stemming particularly from fears of teacher unemployment.

employment. It seems that this year the new O level mathematics requirement has compounded those fears.

As yet, however, we do not know the full extent of the drop, much less if any particular sectors are recruiting significantly below average (The Central Clearing House still awaits more than half the returns from training institutions).

Even the figures themselves are not likely to be very revealing except with a much more thorough analysis. There are many questions that could be asked. Which institutions have boosted their intake by playing the "soft options", however ill-advised this may be for their students? Do they have to be against excessive admissions for training as primary or PE teachers—the latter subject claiming almost 20 per cent of all applicants for all subjects. It is easy to recruit in such cases, but it may well lead to future unemployment as teachers.

Conversely, which institutions have kept places open for the shortage subjects where recruitment is

so difficult but national need so pressing? Which institutions have broken the spirit of the new entry requirements by recruiting for three-year courses now to beat the ban on entry to the profession in 1984 without O level maths?

Are some institutions benefiting from the indulgence of their valuing bodies with regard to the range of subjects offered in diversified courses complementary to their teacher training? Are institutions in favoured geographical locations still recruiting well? And do those institutions which have enjoyed a reputation as "finishing schools" still attract? Do denominational colleges fare better or worse than others?

The answers to such questions may point to individual reasons for the recruitment position at individual institutions—not to generic reasons peculiar to any one sector. I look forward to your professional assessment of the admissions situation when you have the facts.

R. HEDLEY, Director,
Leicester Polytechnic,
Nottingham.

Good case for playgroups

Sir—If ever a good case was presented for playgroups and playgroup courses it was done by the famous "Beyond Play" in The TES of October 3.

Both playgroups and nursery classes face problems over the management of fairly large groups of three and four-year-old children and the leaders and teachers develop considerable ingenuity in overcoming these problems. The playgroup, however, can, and usually does, offer a further dimension. Because it needs to involve the parents in the management and in the socialization of the children attend to the ages parents to attend the playgroup courses offered by the Pre-school Playgroups Association through the local adult education network.

Having tutored such courses for several years I know that they are the most frequently heard comment as the end of the course draws near is "I've got far more idea of how to help my own children at home". In sharing discussion about the ways of providing really high play/learning situations in a playgroup, the students, the parents of under fives, collect store of ideas and attitudes which stimulate their handling of their own children.

Barbara Tizard's rather despairing assumption that mothers cannot time to plan the ordinary activities of home so that a toddler can be part in them is a sad comment indeed. Fortunately there are mothers about who could prove wrong.

DIANA DOBSON,
PIPA Tutor,
10 Henrietta Villas,
Bath,
Avon.

Kinder cuts

Sir—A recent discussion with a bookseller acquaintance confirmed the depressing fact that schoolchildren (or their own parents) now having to buy their own books. This appears to be particularly true of O level texts. The saddest thing of all is that where the l.e.s. used to get a discount, most of the books being bought by individuals now pay the full price.

My bookseller friend said he would be only too pleased to offer a discount to teachers or parents who buy together in groups of 10 or more and negotiate a discount.

C. A. L. LAWFIELD,
29 The Avenues,
Norwich, Norfolk.

LETTERS

Many years before cuts will heal

Sir—As one of Leicestershire's upper school heads taking early retirement ("Break", October 3), I was not able to speak to your reporter when she telephoned on Arieside's behalf, may I comment on the situation?

I have been head of the Longside since it opened in 1960. In that time I have admitted and striven to implement the enlightened and progressive educational philosophy of the Leicestershire education authority, helping to develop a genuinely comprehensive upper school and more recently its logical extension, a specially based community college. Education for all has never been more necessary than it will be in the 1980s, and I never doubted that our efforts would receive the same heartening support from the L.E.A. during the next few years that we had enjoyed in the past 20.

However, in the past year or 18 months the attitude of this L.E.A. has undergone a marked change. It is not merely that our County Council is finding it more difficult to finance an adequate, let alone an above-average, local education service; it is by no means alone in that. The sad thing is, it seems to be rapidly becoming more reluctant even to try.

For five or six years we have been suffering a relative decline in material provision, but this has repeatedly been justified by the argument that the vital human element was to be safeguarded at all costs: our pupil-teacher ratios, well above the average of comparable authorities. Last year, however, along with an unprecedentedly severe cutback in other aspects of the service, including technical



"... and in the twinkling of an eye he moves easily from the Repeat of the Corn Laws to Lower School cloakroom duty..."

Still waiting for that 'adjusted' pension

Sir—I retired from teaching in July 1979. In an AMA Journal, January 1980, it was stated that all teachers who retired after April 1979, would have their pensions and lump sums adjusted to take account of the Clegg award. In April 1980, I received a letter from the DES stating that it was confirmed my pension and lump sum would be so adjusted, but that it would take some time to send this out because there were a number of people affected.

In mid-July I wrote to ask when I could expect the adjustment to be made. In due course I was informed that in view of the "Clegg error", the whole question was in abeyance until the Minister "made up his mind".

I took up the matter with my MP who received a letter dated September 3 from the Minister of State stating that the minister had not yet decided if the idea of determining pensions on the basis of a "national salary" could now be effected.

So after all this time, not only

have we not received any adjustment, but now there seems some doubt if we shall receive it at all. I find it astonishing that the inability of a Minister to make up his mind should occasion hardship to so many people who are being deprived of the correct pension that was promised them, and being deprived of the interest on the lump sum which is due to them.

A. MORGAN,
24 Woodlands Road,
Barry,
South Glamorgan.

Freedom of speech: Johnson's defence

Sir—Where on earth did Aristides (October 10) get the notion that Johnson sought to "fix" the language? The very contrary is the case.

"In the boundless chaos of living speech" the great Chom had found no guides except "experience and analogy". Irregularities were "inherent in the tongue" and must be permitted "to remain untouched. Uniformity must be sacrificed to custom... in compliance with the numerical majority". And if an academy to regulate and improve style were established (an idea very much favoured at the time), "I hope, concluded Johnson in his Preface, that 'the spirit of English liberty would hinder or destroy it'".

STEPHEN CORRIE,
10 Russell Gardens,
London, NW11.

Race bias in schools

Sir—Many thanks for giving due prominence to the plight of the black teachers' plight. We have been quietly suffering for a long time. The education service should not and cannot afford to practise discrimination. If it is allowed to do so, it will cause serious damage to the society we live in today. Determined political action will be necessary to correct the situation.

ABU REZA,
117 Abercorn Crescent,
Harrow.

The science of the obvious?

Sir—While it is fair to quote the comments (October 3), of the president of the British Psychological Society regarding the efficacy of corporal punishment and the nature of the evidence as set out in the society's report, it is perhaps slightly misleading to refer to the "shortage of scientific evidence". Much of the scientific evidence bearing upon the effects of physical punishment has been obtained from animal studies.

Granted there are important differences between human beings and rats. It does not follow that all such evidence is irrelevant. On the contrary, we study animal behaviour precisely because it can lead to useful insights about human behaviour.

To quote a classical review of the literature on this topic by Azrin and Hols, a couple of hard-nosed American "rat" psychologists, was back in 1960. "It is in the area of social disruption that punishment does appear to be capable of producing behavioural changes that are far reaching in terms of producing an incapacity for an effective life".

This is largely because of its unforeseen and unwanted side effects, including those of the consequent escapes and avoidance behaviour. After carefully weighing the oceans of data available 14 years ago, the same authors conclude: "When physical punishment is administered by another organism, social aggression appears to result". What price vandalism?

For obvious reasons there are no rigidly performed experiments with

random samples of children being beaten mildly or severely as compared with an unbeaten control group. Nevertheless, as anyone who reads the working party report will see, there is ample scientific evidence demonstrating that children respond anti-socially to models of violent behaviour, especially when the violence is indulged in by a figure in authority.

Children learn a lot of their moral (and immoral) behaviour by following the examples presented by the significant, powerful adults in their lives—parents and teachers being the most influential. This is commonsense and hardly merits serious debate.

To make the same point another way: So far as I am aware it has never been scientifically proven that crucifixion is a bad idea. Yet I doubt that, even in today's atavistic climate of opinion, the flogging brigade would advocate its reintroduction. Now, may not? Of one thing you may be sure, among those crucified there is a low rate of recidivism.

The fact of the matter is that as civilization proceeds so do ritualized forms of violent retribution diminish. Little more than 100 years ago it was thought reasonable to tear out the tongue of a blasphemer. It is to our credit as civilized creatures that we no longer find such cruelty acceptable. Or am I hopelessly out of touch with the current public mood?

As convener of the BPS working party I can assure those who may

suspect our motives that we tried very hard to unearth some evidence to support the use of corporal punishment. Little was offered, and that little was distinctly anecdotal rather than scientific. Nor were the 10 members of the working party picked for their prejudices on the issue (myself apart). It is fair to say that we were driven to our eventual consensus by the sheer weight of the evidence presented. Anyone who wants to look into that evidence more closely can obtain a copy of the working party report on corporal punishment in schools for £3 from the BPS offices at 48 Princess Road East, Leicester, LE1 7DR.

Somewhat I doubt that those most vociferous in their advocacy of the cane and tawse as educational aids will bother to confuse themselves with the facts. Hopefully, others less committed to the satisfactions associated with the use of force will look closely into the more effective established alternatives of classroom management as summarized in the report and help to bring the UK into line with all other civilized nations that have never enjoyed the egregious honour of having been part of the British Empire.

Prof R. T. GREEN,
British Psychological Society,
48 Princess Road East, Leicester.

Letters for publication should be as short as possible and should be written on one side of the paper only. The editor reserves the right to cut or amend them if necessary.

Sixth-form cooperation: a success story

Sir—In the light of the very questionable claims by the tertiary colleges that sixth form cooperation is open to between schools is doomed to failure, I would like to draw readers' attention to a successful case of cooperation which is being developed and is likely to develop even further in the foreseeable future.

Our school, a Group 10 Girls' comprehensive has been involved in sixth form cooperation with our local Boys' School (Group 11) for six years. Combined A-level courses have been running in English, Mathematics, Geography, French, Biology, Chemistry, Physics, and Art. These courses are run either by sharing the syllabus or in alternate years in each school.

In addition students can, if they choose, attend lessons at the partner school in the afternoon. The subjects are history, political history, economics, and sociology. The only constraints are those of timetabling, which may restrict pupils' options.

A more recent innovation has been the admission of a third school (mixed) to the arrangement. As yet there is no three-year A-level teaching, but students from the new partner attend lessons at the other schools.

More significantly the advent of the new school has coincided with the introduction of a combined studies course which is compulsory

for all first year sixth formers not directly involved in A-level work on the course afternoon. The course is open to second year sixth formers by arrangement.

Seventy-eight students are involved with four teachers in the proportion 2:1:1 from the three schools. Each teacher, currently the three Heads of Sixth Form and our own Head of Art has produced a module for the course. These will last for one term each and are entitled: Art Appreciation—French Impressionists; Religious Studies—Different Christian Denominations; The Family and the Law; The Principles and Practice of First Aid. In conjunction with the St. John's Ambulance.

Pupils can choose any three from the four and they are assessed for CSE.

Apart from the above provision students can join any class in the partner schools and mixed classes in commercial studies, media studies and general science are established.

There are, as your report indicated, considerable difficulties. Timetabling problems, discount, because they are no worse than can be encountered in a big sixth form. Negotiations are more protracted and frustrating, but they are manageable. The real problem lies in reconciling students' needs in studies course which is compulsory

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increased student numbers without a compensating financial increase. I am a great supporter of the MSC as I think it has acted as a useful catalyst in training but their funds do not support students in full-time education. What is needed urgently is more money in local authority budgets and a coherent and unified education and training programme for the whole of the 16 to 19-year-old age group. While the MSC has done valuable work in promoting YOPs, etc. one cannot help feeling that a similar injection of funds into the further education system would produce similar results at less cost if only because most further education students receive no maintenance allowance.

To date, we have experienced a plethora of committees who have analysed the problem but the situation is such that positive and constructive action is required urgently. The education service should play the major role in this development.

To continue to separate training and education for these young school leavers may partly solve existing problems but will do nothing to solve those we shall face a few years hence.

Sir Raymond Pennock, the OBI president, hardly a Left Wing militant—said in a BBC radio interview, that the consequence of high unemployment can be social unrest. "I believe that most of the militancy in the postwar world was bred in the hearts and minds of young men in the days of unemployment in the 1930s. I fear that if we do not get something done about these young men now, we are going to get the same sort of trouble."

J. G. BELL,
Principal,
Redhill Technical College,
Redhill,
Surrey.

'Ripple' over world studies

Sir—Did anyone else read "The school school" (September 26) with its mixture of horror and incredulity as I did? It was so full of errors that I am not sure I can explain to a secondary school child what the author meant. I am all at sea and also, show, that how to make it into something else, that

is if they don't already know these things from their 'ripple' of world studies at primary school. Will the strangeness of so-called educators never cease? A. R. STILLER,
Spring College,
High Park,
Northampton,
East Sussex.



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Science diary



A scene from the Open University programme "World's Apart" to be screened on November 11 at 11.25 on BBC 2, to coincide with Voyager's closest approach to Saturn.

Now, Voyager

by John Maddox

The American spacecraft called Voyager 1 is now well on the way to Saturn, and should pass within 125,000 kilometres of the surface of the planet on the afternoon of November 12. Between now and then, the newspapers will no doubt be full of increasingly explicit photographs of the planet and its satellites.

By the end of the year, there should be a much clearer understanding of what the planet is really like, but there should be a further harvest of information by May next year, when Voyager II—following on the heels of Voyager I—will make its closest approach to the planet. Without exaggeration, there is every prospect that within a year, more will be learned about Saturn than in the past two centuries of observation from the ground.

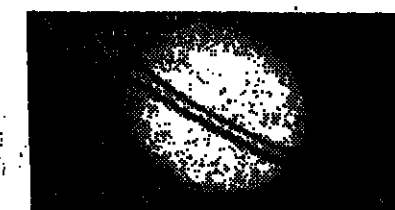
And yet it is already clear that several teasing puzzles await us, and the chief of these will be the question of what the rings of Saturn are made of, and why they have the shape that has been observed. In reality, the ring system around Saturn reaches out to a distance of 480,000 kilometres—a distance equal to eight times the radius of Saturn. Even small telescopes suggest that the ring system is broken into two pieces but more recent observations from spacecraft in particular have suggested that there are at least five places where the ring is relatively devoid of material.

Perhaps the most obvious difficulty about Saturn's ring system is why it should be there at all. The recent discovery (again by spacecraft) that the planet Uranus has a much thinner system of rings, and that Jupiter is quite unexpectedly surrounded by a ring of fine dust, has helped to suggest that planetary rings may be more common than has been supposed. Yet nobody knows where they have come from.

What is, however, clear is that even the relatively conspicuous rings around Saturn are really quite tenuous. So much is evident from

the way in which it is possible to see the inner satellites of the planet when they lie between the ring system and Saturn itself.

Telling what they are made of has been a complicated guessing game—it is necessary to try to work out what the material may be from what little is known of the absorption of light of various wavelengths by the material in the rings. As things are, the best guess is that the rings of Saturn (but almost certainly not those of Jupiter) consist of relatively large lumps of ordinary ice—lumps that may range in dimensions from a few inches to a few feet.



The Voyager spacecraft will be able to confirm and refine these guesses although not by direct chemical analysis of the material—instead, both instruments are equipped to transmit radio signals back towards the earth from beyond the rings. With a little luck, it should be possible to work out the degree to which ordinary ice is contaminated by other materials, and to learn something of the proportions of lumps of various sizes in the ring system.

Quite a lot can be inferred with reasonable certainty about the behaviour of the particles of which the ring system is made. By a stretch of the imagination could the ring be a solid ring. By now, everybody knows that the rotational (angular) velocity of a satellite in a circular orbit about a planet decreases with distance from the centre of the planet. This means that if the rings around Saturn were indeed made of some solid structure, rotating about the planet as a solid whole, very large forces would have to be transmitted through the rotating disc so as to ensure that the outside and inside edges were moving with the same angular velocity. The dimensions of the system are such that no known material could sustain such forces.

Nowadays, it is plain, the material in the rings around Saturn must consist of independent particles which travel in orbits of their own around the planet. That the rings should be flattened into discs lying above the equators of the planets is also easily understood.

To somebody sitting on a lump of ice in Saturn's rings, the sensation would be eerie. Other lumps of matter would be visible in all directions at a distance of anything from a few feet to a few hundred feet. They would appear to be almost motionless. At the most, relative velocities within the rings are unlikely to be more than a millimetre or so a second. Perhaps every few days, there would be a gentle collision between each lump of ice and some other.

Given such uniformity, it is easily understood why the rings of Saturn do not destroy themselves by the mutual collision of the particles

which they contain. But why there are gaps in the rings system, why, in any case, is there a gap between the inner surface of the ring system and the surface of Saturn itself?

The most pronounced of these gaps is known as the Cassini division. It is visible with telescopes from the surface of the earth as a dark band on the otherwise luminous ring around Saturn. It is a consequence of the gravitational influence of the planet Mimas—a tiny object merely 360 kilometres across which orbits around Saturn just 185,000 kilometres above the surface. For it is worth, the period of revolution of Mimas is almost exactly half that of the particles that surround the planet.

The reasons given as to why there should be such gaps are, to my mind, unconvincing. The best explanation so far for the Cassini division is that it is a consequence of the gravitational influence of the planet Mimas—a tiny object merely 360 kilometres across which orbits around Saturn just 185,000 kilometres above the surface. For it is worth, the period of revolution of Mimas is almost exactly half that of the particles that surround the planet.

That something like this should happen is entirely conceivable. It is easy to see how the circular orbit of an ice particle in the ring system could be distorted into an ellipse by the gravitational pull of Mimas at each end of its orbit. But a distorted orbit would increase the likelihood of collisions.

The trouble is that the divisions in the ring system are not being easily accounted for in any way. But there is a chance that the accurate predictions now in prospect of the behaviour of Saturn's rings could be much larger than Mimas, and that the rings are made of material of a different kind.

And, of course, there is the question of where the rings came from in the first place. The broadly held view is that the rings are the debris of a planet that was destroyed.

A sure choice between these two theories will require the use of abilities we have not yet acquired. The prediction of the behaviour of the ring system as it is broken up by gravitational forces is a difficult exercise of celestial mechanics. The prediction of the behaviour of the ring system as it is broken up by gravitational forces is a difficult exercise of celestial mechanics.

Denis Lawton describes some new thinking in Australia's core curriculum debate, and considers its implications for British teachers

November, 1977, Australia's Curriculum Development Centre, directed by John Skilbeck (an Australian who spent much of his career teaching in United Kingdom universities), began a series of seminars on the "Core Curriculum Values Education". A Working Group, chaired by Mark Oliphant, studied the problem of providing schools with a kind of "cultural map". This summary of the CDC's work is an important document for discussion, "A Core Curriculum for Australian Schools".

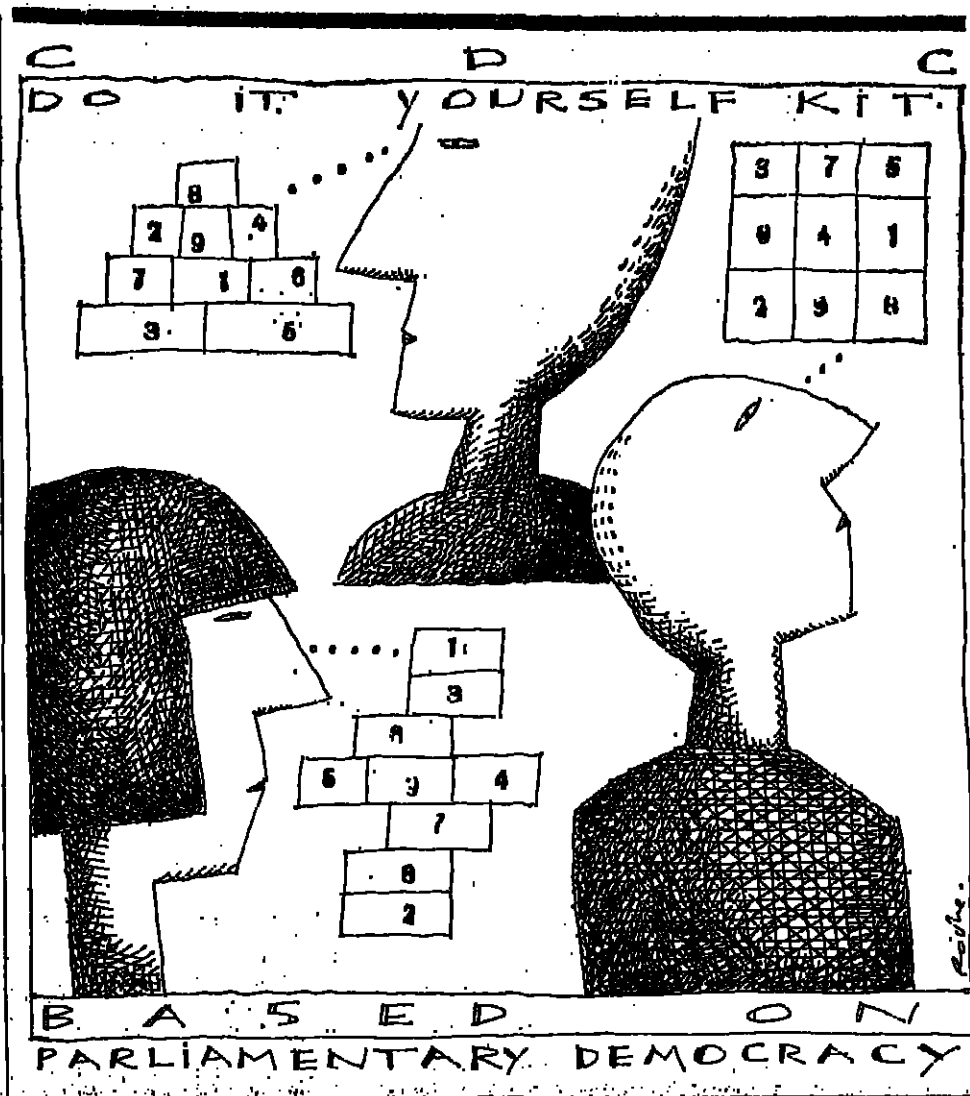
The particular needs are the ones likely to be most obvious and most pressing, but without proper regard for the more general educational principles, there would be a danger of the educational process being distorted in order to satisfy short-term social and economic demands.

The CDC have attempted to spell out the fundamental principles (i.e. those which would apply to any society with a system of compulsory education today):

1. The nurturing and development of the powers of reasoning, reflective and critical thinking, imagining, feeling and communicating, among and between persons.
2. The maintenance, development and renewal (and not merely the preservation) of the culture; that is, of our forms and systems of thought, meaning and expression—such as scientific knowledge, the arts, languages, and technology.
3. The maintenance, development and renewal (and not merely the preservation) of the social, economic and political order—including its underlying values, fundamental structures and institutions.
4. The promotion of mental, physical, social and emotional health in all pupils.

The CDC then analyses one particular culture—Australia in 1980—with a view to determining what should be selected from that culture for dynamic transmission to the next generation. High priority is placed on the fact that Australia is a parliamentary democracy.

"Australia is a parliamentary democracy subscribing to basic human rights, the rule of law, a full and active



(Illustration by Christine Roche)

authors tackle the difficult question of how a core curriculum should be planned and organized. The task of designing a core curriculum is essentially a matter of taking into account general educational principles (which apply to any society at any time) as well as the particular needs of a given society (e.g. Australia in the eighties).

The CDC then provides a list of "core learnings", rather than subjects, in the form of nine broad areas of "knowledge and experience":

- (1) Arts and crafts.
- (2) Environmental studies.
- (3) Mathematical skills and reasoning and their applications.
- (4) Social, cultural and civic studies.
- (5) Health education.
- (6) Scientific and technological ways of knowing and their social applications.
- (7) Communication.
- (8) Moral reasoning and action, value and belief systems.
- (9) Work, leisure and life-style.

The nine areas are deliberately not put in any order of priority, nor is any indication given about the relative amount of time which ought to be devoted to each; that is clearly a matter of planning by the individual school. In the document, it is only implied that any curriculum lacking one of the nine would be incomplete, and therefore unsatisfactory.

Each area is defined a little more closely, but without ever getting into the

participation in civic and social life, and fundamental democratic values. Schools have an obligation to teach democratic values and promote an active democratic way of life, including participation in the parliamentary system.

Skilbeck and his colleagues then set out a list of values which will influence the choice of knowledge and experience for a core curriculum. At this point, a very important principle is stated, which has general applicability:

"Merely to define the curriculum as the set of compulsory subjects is unsatisfactory. To simply list the subjects is to miss one vital requirement of core curriculum, namely, that subject matter, teaching learning processes, and learning situations should be organized around a set of aims, principles and values which relate to the defined characteristics and major needs of contemporary society and/or youth."

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features

Well beyond the basics

dangerous and unacceptable task of designing a teaching syllabus. For example, area number six is described as follows:

"Science and technology are fundamental forms of human thought and powerful applications of organized problem-solving to practical situations in the every-day life of individuals, for whole societies and for the world order. They exemplify not only rational but also intuitive, imaginative and creative powers of the highest order. They are decisive forces in the transformation of social and economic life, belief systems and working life. Their study in the core requires an emphasis on forms of knowledge, synthesis, interpretation and extrapolation of data, problem-solving, decision-making, theory-practice relations and social action. They are a means of interpreting and modifying the environment. Thus scientific and technological studies need to pay attention to the social issues, inter-relationships amongst science, technology and social trends and needs, and the historical conditions giving rise to scientific and technical change."

"Although choice of material for learning may vary widely, science and technology in the core should provide opportunity for a common set of skills, understanding, and dispositions—scientific and technical thinking and their applications."

This justification of science in the core curriculum has much in common with the HMI document issued in 1977, "Curriculum 11-16". In both cases, a further stage of planning must still be undertaken before handing over the task of syllabus writing to schools. An intermediate level of clarification about the meaning of science, the kind of concepts, skills and attitudes which are necessary for a pupil to be educated in science, needs to be spelled out.

This is perhaps the most difficult aspect of national curriculum planning: presenting an outline or a set of guidelines which will be sufficiently detailed to enable schools to get on with local planning, without venturing into the detailed area of school curriculum or syllabus planning which would be totally inappropriate at a national level.

In both the United Kingdom and Australia discussions about a national curriculum are being pursued side by side with the development of national testing programmes. In England science resources have been wasted on developing tests for the Assessment of Performance Unit (APU)—tests which, at best, can only provide crude results in terms of national standards, rather than helpful feedback to teachers and pupils. In Australia there is also pressure, from politicians and some parents, to have national testing, particularly in the area of maths, science and English.

I would see the development of a national curriculum policy as an alternative to this kind of wastage of resources. Getting the curriculum right at national and school level is much to be preferred to a system of testing which not only runs the risk of distorting the whole curriculum, but also may encourage teachers to drill pupils in a most undesirable way.

Denis Lawton is deputy director of the University of London Institute of Education.

features

Paid to learn

Not so long ago, three-quarters of the population in Italy left school without the basic qualification. The '150 hours' scheme, with its distinctive working-class emphasis, has transformed adult education in many parts of the country. Martin Yarnit reports

Last year, nearly 90,000 people—workers, housewives, unemployed—looked advantage of the 150 hours scheme to return to study for the middle school diploma. Since 1973, when the first courses began, over 400,000 adults have benefited from one of western Europe's few effective PEL systems. Over eight million Italian workers are now entitled to 250 hours of leave paid for by the employer.

With even a small scale equivalent scheme seemingly still light years away in Britain, it is worth asking how educationally backward Italy has propelled itself into the adult learning vanguard in under a decade.

More than any other factor, it was the clash between the Italian school, one of the world's most harshly class biased, and the newly radicalized workers and students movements of the years after 1968, which brought the 150 hours into being. The simultaneous and massive upsurge of workers' and students' struggles highlighted the interlinking of school and factory: "We're workers because one day society threw us out of school and made us factory fodder. With

our labour we've paid for a school system that chucks us out and pushes our kids to one side. Culture is used only to make people unequal..."

A year earlier, a group of peasant boys had assembled their own devastating critique of Italian education. Through a painstaking analysis of the national statistics, they built up a picture of a rigid hierarchy of educational inequality, which consigned the children of the poor, of the peasants, of the dialect-speakers to almost instant failure. Their book, *Letter to a Teacher*, traced the fate of successive national intakes to show how three-quarters of the population—and nearly all manual workers' children—managed to leave school without the basic qualification, the middle school diploma.

A ruthless selection system ensured a convenient supply of unskilled, unqualified labour for the Italian boom. Only since 1962 has the law required universal schooling beyond the age of 11. But this reform has to be set against the scandal of the morning school. Assuming that they are lucky enough not to be taught in a big city where the schools can cope only by running a shift system, Italian children mostly attend school in the morning alone.

For teachers and the children of the well-off this is an admirable arrangement, since it provides the time for private afternoon sessions (*doposcuola*), thus advancing the interests of everyone except the majority of children, whose parents cannot afford to pay tuition fees. To add insult to injury, the state schools manage to lose 180 days of the year in holidays, and a further 30 days with examinations. "School, with today's timetable," wrote the authors of *Letter to a Teacher*, "is a war against the poor."

Taking as an indicator, the fact that fewer than 20 per cent of engineering workers left school with the middle school diploma—the figures for women and for southerners are worse, of course—it is

easy to see why there should have been an army of one million workers at the beginning of the 1970s studying in their own time and at their own expense, mainly in private night schools, for qualifications.

The law of May, 1970, on the right to study, intended to take the heat out of this situation, merely whetted the appetite for a more radical reform. The workers, who began to trace the sources of their disunity within the factory and the grading system, moved on to identify the school as the promoter of class differences. Within the most militant sections of the industrial working class, the challenge to the schools crystallized in the demand for paid educational leave.

In spring 1973, a delegates conference of the engineering workers' federation (the FLM) called for the scheme now known as the 150 hours to be established in state schools, taught by state teachers. The employer was to contribute 150 hours paid leave, matched by a similar amount at the worker's expense; otherwise the scheme would be free.

The length of the course, which would parallel the middle school diploma curriculum, would be one school year, and the diploma would be examined locally by a commission composed mainly of the course teachers and the unions involved. Above all, the scheme should be mounted on a scale sufficient to eliminate the demand for private courses.

From the beginning, the key to the success of the 150 hours has been the energetic pioneering spirit of the FLM and the national official responsible, Paola Piva, and the pressure for change from the factory committees, spearheaded by the most militant workers in the car and engineering plants of the north and centre.

The political origins of the 150 Hours account for the scheme's strengths and weaknesses. It represents something unique in recent times in western

Europe: an attempt to challenge the functions of the schools by using the base for an overtly working class programme of adult education.

Nobody I met in Italy felt that innovations of the 150 Hours had more than a glancing impact on middle school. It has helped to late an appetite for educational reform but its influence has been quashed largely as a result of the tactics adopted by the government. The minister of education, in one extremely effective move, has steadfastly refused to sanction any way traffic in staff between the state and the 150 Hours.

On the other hand, there's no doubt the significance of the breakthrough paid educational leave, or the success of the scheme in combining second chance at the middle school diploma with what the Italian *cultura di classe*. It is probably the formation of the standard school curriculum and the creation of a distinctly class approach to learning which is most interesting.

What this means in practice can be seen by examining how the 150 hours has developed in two cities: Bologna and Milan. The common features are a history and similar forms of organization. Techniques and materials developed in one situation spread to other.

Underlying the similarities is a shared agreement, at least on the trade union side, about the aims of the 150 hours. The participants should acquire, actively, to learn from each others' indispensable instruments for independent thought—speaking, writing, calculating, using logical processes, and scientific method; and be able to relate critically the personal experience of life and work to an overall frame of reference.

What this means in practice is conveyed by this extract from an interview by this extract from an interview with the trade union committee in Bologna. "On the courses, we generally use reading books, magazines, extracts

every student reads a part, and then, after all the words have been understood, explains the passage's meaning, necessary with the help of other students and the teachers. At the end, there's a discussion to clarify ideas, and everyone makes a note of what has been learnt.

Sometimes, instead, everyone individually writes a report. This is then checked by the teacher with the student.

The other method used in the courses is the work group. The class is divided into groups of four or five persons. Every group has books and magazines available to be read collectively, discussed, and then a summary is written of the discussions. Each group then reports to the class."

In the classroom, I noticed three standard procedures almost everywhere. First, students' own experience is used wherever possible as the basis for developing generalizations. Students advance their understanding of the workings of an educational system through an examination of personal histories. Second, the techniques of study and analysis are normally conveyed as an history and similar forms of organization. Techniques and materials developed in one situation spread to other.

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of the local authority employees has given the 150 Hours a distinctive character. Bologna is the other extreme; a settled, socially more homogeneous city, where it is impossible to ignore the influence of the Communist Party (PCI). There the local committee of the FLM really runs the 150 Hours, laying down the course content almost as if it were the education ministry in Rome. District committees and teachers, I got the impression, retained greater autonomy from the centre in Milan, where the power of the factory committees has for more than a decade posed problems for the PCI and the unions.

At the same time, the dominating presence of the industrial workers, and especially the engineers, has acted as a unifying influence on the courses. In Milan, one has the strong sense that the 150 Hours has grown real, popular roots to an extent that the FLM's efficiency and centrality militates against it. To put it another way, the vigour of the 150 Hours is inseparable from the vitality of the local workers' movement.

In the early days, this relationship worked in favour of the scheme. Now, in the era of recession and political bewilderment, the 150 Hours is suffering seriously from the weakening of the factory committees. Demand continues to outstrip supply, but this can be misleading. In the north and centre, local committees are often failing to take up the available places, while in the south, where the failings of the schools are felt most severely, there are often more applicants than places. Housewives, the unemployed and public sector workers provide the biggest and most rapidly growing sources of demand. The most dramatic shift in the composition of the student body is the displacement of the mainly northern engineering workers by a more heterogeneous group drawn from the south and islands.

All this suggests that the political impulse which gave life to the 150 Hours may be about to be eclipsed by other pressures. "Of course, people are keen

to get the certificate, and that's what we want," I was assured by Lilliana Bellinva, a district course coordinator in Milan. "And that's fine as long as the course is serving more general ends as well." It's difficult to judge how justified her optimism is.

The signs are that the delicate balance between individual and collective advancement which the 150 Hours represents is being pushed out of true by the influx of a new generation of students, who know nothing of the original aspirations of the course's founders, but who recognise the value of the diploma to their employment prospects. This is a far from congenial development from the point of view of the FLM and many of the teachers, notably younger and more radical than the norm in Italy; but it is probably unavoidable given the importance attached to student involvement in determining course content.

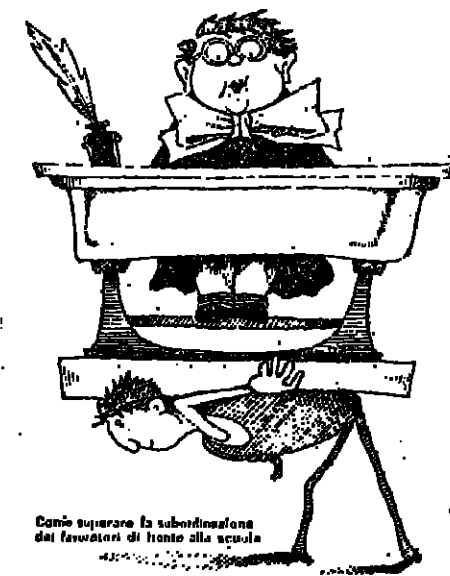
Besides, the vitality of the 150 Hours depends on its capacity to adapt to the newly posed demands of women, of unemployed youth, of the hospital workers. Overall, the evidence suggests that the scheme has risen to these new challenges. It is important that demand is increasing, and that more and more sectors of the economy are covered by PEL arrangements.

The original 150 Hours has become for most 250 or even, in the case of the engineering workers, 350 hours. More attention is going to teacher training and to back-up services. At last, the unions are taking up the campaign to prioritize the recruitment of women, and to make nursery facilities commonly available. More attention, too, is being paid to the provision of literacy courses.

The third sector of the 150 Hours, the so-called monographic courses held in the universities, is giving rise to a serious and useful collaboration between men and women workers and academics over a wide range of issues: spurred on by the Seveso disaster, 150 Hours reports on health and safety at work have quickly established the value of the growing number of advanced courses.

In these, as in the central middle school diploma courses, it remains the case that the "best results have occurred where

features



An Italian cartoonist's view of the relationship between workers and pupils.

the programmes have taken into account what's going on in the workers' movement and the world of work, and have developed teaching which always relates to this" (150 Hours bulletin, Milan).

Theoretically, the syllabus comprises Italian, history, geography, maths and science. In reality, what makes the appeal to thousands of students is an approach to learning which attempts to make sense of the world through their ideas and experiences. The fact that there's a diploma at the end of it and that there are no course fees has also contributed to the popularity of the 150 Hours.

Isn't it time we mapped out a strategy to create a British 150 Hours?

Martin Yarnit is WEA Tutor Organizer and Co-ordinator of Second Chance to Learn, Liverpool. This article is based on his essay in *Adult Education for a Change*, edited by Jane L. Thompson, and published recently by Hutchinson (£9.50; paperback £4.50).



Workers join a demonstration against Fascism in Turin. Car and engineering workers in the north and centre of Italy have been in the forefront of the campaign for the 150 hours.

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Science 1st Action.

The Silicon Chip. Modern Metals. Wayland £3.95 each.

One World Library is an extremely ambitious conception which aims to present "an informative picture of the world today, with text and illustrations depicting activities in all spheres of life." However, impossible this may be to achieve, the first four volumes are determined and praiseworthy attempts in four challenging areas of scientific knowledge.

Signor Martelli is the author of the Italian origin only on close inspection, the occasional photograph. The text reads consistently well throughout. Photographs and other illustrative material are beautifully reproduced and helpfully placed. The topics covered by these four volumes are widely diverse, but all are information-packed, so much so that one is soon reeling mentally if attempting a straight read-through. But the books are intended for selective information gathering rather than continuous reading, and the reader is assisted in each volume by an excellent and comprehensive index (it was unlucky that my first random trial identified what is undoubtedly a rare error in the index of "Evolution" - mutation is not to be found on page 10).

The degree of specificity in the area of knowledge concerned affects the overall cohesiveness of each of these books. For example, in *Feeding the World* and *The World of Technology* the selection of material presents a considerable challenge if a satisfactory index is to result. *The World of Technology*

New roads to freedom

John Laski

Computers. By Heinz Kurth. World's Work £3.40. 197. 53619 x. The Story of Computers. By Roger Piper. Hodder and Stoughton £4.25. 340 24626 x.

We badly need books that will start children exploring computers and computing. How do and will computers structure the social environment? What kinds of needs and what ways of thinking make one want to use a computer? What is the computer and what does it do for us? How can computers be organized to do all the things we want them to do? In what physical media can the representations of programs and information be stored, retrieved, and manipulated? (I have not space here to present the made-up names of persons of various holes in cards, or whatever, realize the same information, and the user is not concerned with the medium.) These are only a few of the questions everyone needs to consider.

Neither of the books under review will help. Heinz Kurth's *Computers* is frequently confusing and often inaccurate. Roger Piper's *The Story of Computers* concentrates so much on hardware that the index refers to programming on only five out of 76 pages, and those five the text has almost nothing to do with programming.

The computer will make possible the largest extension of human freedom since the bicycle. When will children and teachers, educational administrators and politicians, reach this freedom and how to reach for it?

perhaps the least specific topic of the four, contains much that is interesting and worthwhile. But the inclusion of a chapter entitled, unhappily in this context, "Some marvels of modern science", highlights this problem of selection. On the other hand *The World of Chemistry* and, especially, *Evolution*, are intrinsically more sequential in nature, which makes the selection of content seem inevitable rather than idiosyncratic. I prefer *Evolution*, which gives a clear, accurate and wholly absorbing account of the process. Again, the photographs help enormously in the production of a very satisfying volume.

All four of these books are strongly and attractively produced, and the list of titles under preparation suggests that this series is worth serious consideration for the school reference library.

The two volumes in the *Science in Action* series also differ in the degree of specificity offered. In *Modern Metals*, Andrew Langley tries to bring some sense of structure to link together a very complicated and complex field, and the fact that he does not entirely succeed within the constraints of less than 70 pages is not surprising. It is difficult for the reader to discern the overall direction of this book; it comes over as a miscellany of information about metals.

The Silicon Chip is, in the editorial sense, easier to handle, and Ken Woodcock tells a fascinating story which should have a ready appeal to young readers; but the early pages, vital to the exposition, contain some ambiguities and some confusion which should have been tidied up in proof reading. The first caption says, "Modern office tele-

phone exchanges contain advanced silicon chips. This helps to make them small and reliable." The chip or the exchange? Again: "The chips were designed to break coded messages..." The computer, with valves? On the same page we are shown a photograph of a valve, and the accompanying caption describes it as being "about 55mm long and 22mm in diameter". In fact, it measures the valve in the photograph, as I did, you find that it is more than twice these dimensions. This criticism would perhaps be over-fastidious were it not for the fact that on the facing page the caption continues, "(valves) are also known as you can see in the picture" (in italics).

Both these *Science in Action* authors are over-generous in the use of the exclamation mark, and the context of science textbooks whose purpose is to further the explanation rather than to amuse, they often seem inappropriate. The photographs, all in black and white, are generally of good quality, though some are too small to be very helpful. The selection of photographs poses problems, particularly in *The Silicon Chip*, as it is so small, Mr Woodcock decided to include, in addition to photographs and diagrams of a chip itself, pictures of all sorts of hardware in which silicon chips may be present. We have numerous photographs of cameras, washing machines, electric kettles, and so on, and (though undoubtedly "concrete" and "fascinating" for children) the volumes thoughtfully provide series and indexes.



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books

Coming up knowledge

Francesca Greenoak on gardening

Growing Things Outdoors. By Patricia Bell. Hodder and Stoughton £3.25.

The Potted Plant Book. By Sue Tarsky. Methuen/Walker £2.95.

The Window Box Book. By Sue Tarsky. Methuen/Walker £2.95.

"Do you like helping grown-ups in the garden?" begins *Growing Things Outdoors*, ending "I know you will have lots of fun". Personally, I do not warm to this "auntish" tone of voice, but for those who do, this book runs through a range of easy plants to grow with a few basic instructions and some hints about general care.

Illustrations on every page (some in colour) show plants, tools and a family (in rather stiff attitudes) at work in the garden. I would have liked a bit more consideration to have been brought to the spread well-planning down corners, ash leaves and conkers in the bottom of the

garden but these are big trees and they need to be sited with care. There is a warning against cats in the "Bird Helpers" section but despite this the bird table picture is in the perfect position for serving up the cat's breakfast. This is a rather slight book for the fashion, but not a book to excite either child or adult.

There is not a trace of condensation in the two Methuen/Walker books which represent excellent value, well-conceived and executed with attractive illustrations in full colour throughout. The subject—window box and pot plant gardening—offers an opportunity for growing things to any child, not just those lucky enough to have gardens, and with such clear instructions and "activity illustrations" and for disappointments should be avoided. I particularly like the sensible idea of tackling the choice of plants on a room-by-room basis, from steamy bathroom to north-facing bedroom. The selection of plants pictured and described in these books is wide and interesting, though I

should have liked a few scented flowers included such as the easily grown "lemon geranium". They are books carefully designed for children to use but so sensibly written and pleasingly presented that I am sure parents and teachers will like reading them too. I picked up several tips on seedlings, care of bulbs and window box requirements as well as discovering why my pineapple tops have not so far been successful. There is also good practical advice on potting, taking cuttings, hydroponics, making hanging baskets and climbing sticks.

Both these books demonstrate the interest of their subject rather than simply insisting on it. You feel like dashing off at once and trying out some of their suggestions. Many of the ideas are presented in visual form: cheerfully anarchic range of imprudent plant containers; unusual combinations of plants—the window box with lettuce and little red double daisies looks both pretty and tasty. Each book has a good index which thoughtfully includes illustrative references even when these are not labelled in the text.

Voyages of discovery

F. W. Kellaway on birds

Collins Bird Guide. By G. Stuart Kelly and John Gooders. Collins £3.50. 09 2191190 9.

A Guide to Seabirds on the Ocean Routes. By Gerald Tuck. Collins £4.50. 09 219203 9.

Innovation is not all that easy when it comes to handbooks on ornithology, but there is some justification for the sub-title of this attractive book. *Collins Bird Guide* is a new guide to the birds of Britain and Europe.

Two main sections carry colour plates and a descriptive text. In the first are over 600 illustrations, in remarkably true colour arranged, not in the more usual scientific order, but by the size, shape and colour of the birds. Distinctive behaviour and habitat also condition the groupings, which thus offer a useful starting point for the reader after identification.

Each photograph is cross-referenced to the relevant text in the second major section of the book. Here is information describing the various species (464 in all arranged systematically in 68 families); and their individual members, with notes on voice, habitat, nesting patterns and areas in which they may be found.

While these two parts represent the bulk of the book (occupying some 300 and 400 pages respectively) there are other important matters covered in a further 50 or so pages. Among them are hints to bird watchers, a sensible glossary, an index with common and scientific names and a section on conservation. The whole is attractively bound and the volume could be carried in a (fairly substantial) pocket.

The guide to seabirds contains relatively little new material, but there is novelty in its arrangement. Twenty-five sections describe routes throughout the world—British Isles to Cape Town, Aden to New Zealand, Hong Kong to Fremantle and Panama to Japan are a random sample.

For each route there is a concise, annotated list of all the seabirds which frequent the bordering areas. They are narrated in the order in which they may be seen between the ports of departure and arrival, and there are cross-references to the author's *A Field Guide to the Seabirds of Britain and the World* where coloured illustrations and more detailed notes are available. These two books together should enlighten many a voyage.

Flights of fancy

The Duck. Illustrated by P. Barrett. The Penguin. Illustrated by N. Weaver.

Animal World Series. Macdonald Educational £1.25 each.

The Duck appeals to me more than by companion volume. It is less factual and more of a story than a natural history, but the water colour illustrations are beautiful. The birds are realistically reproduced and the soft harmony of the whole scene is a delight to the eye. The text plays a very secondary part and is, perhaps, a little fanciful in places, but it should prove interesting to young children.

The Penguin has not the benefit of such lovely illustrations. Although they have not the same appeal as those in *The Duck*, the text plays a greater part in this book and is well written, although simplification of detail is apt to be confusing. Their mothers feed them on juicy caterpillars produced by their own digestive system, a very odd little clarification.

Both these books are worthy of consideration for the primary years.

Worms. By A. Wootton. Mosquitoes. By A. Wootton. Wayland £3.50 each.

Worms starts as a general life history as might apply to the commoner species. Comparisons are made with other creatures called "worms"—eg, earthworms, slow worms and woodworms. The value of the earthworm in the soil is stressed and we are told of its many predators—worms as fishing bait; comparisons with marine worms and other interesting side-lines are explored.

Mosquitoes also starts with a general life history and a comparison with "pseudo-relatives", referring to the large number of species throughout the world. The Culex and Anopheles are given greater attention because of their occurrence in Britain and their relationship to man. The mosquito as a vector of disease, and the methods of control are discussed.

Both these books with their useful glossaries and indexes, are worthy of a place on the middle school library shelf.

Harold Appleton

Omniscient

The New Larousse Encyclopedia of Animal Life. Consultant Editor Maurice Burton. Hamlyn £12.95. 000 30435 3.

The Complete Encyclopedia of the Animal World. Edited by David M. Burn. Octopus Books £12.95. 7064 0760 1.

The Larousse Encyclopedia, already established as an authoritative work, has been completely brought up to date with the illustrations now in colour. The *Animal World* also gives a comprehensive survey of the animal kingdom and includes distribution and conservation. This book could well smooth the way of the O and A level biology student who would appreciate the magnificent coloured anatomical drawings. No layman need be alarmed by the use of technical terms where necessary as both books have an easy reading style and adequate glossaries are included.

These two books will be equally fascinating to the general reader as to the biology student and will be useful reference works for the professional zoologist. R. C. Vernon

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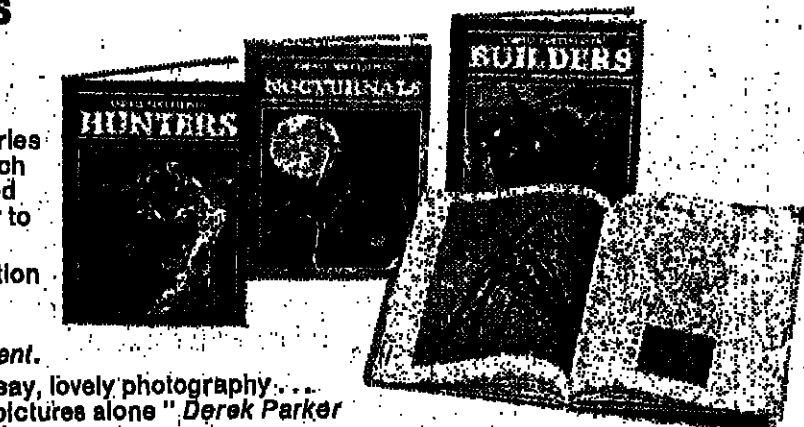
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books Bird's eye view

Philip Sauvain on ancient and medieval history

Life B.C. By Glen Garden. Heinemann Educational £3.50. 535 31200 6.

How They Lived in Cities Long Ago. By R. J. Unstead. Hutchinson £4.95. 09 142460 7.

History in Pictures Series.

The Roman World. By Plantagenet Somerset Fry.

The Barbarian Invaders. By Anne Millard.

The Rise of Christian Europe. By Kathleen Norman.

The Age of the Crusaders. By Anne Millard.

Macmillan £3.95 each.

Rome is the common meeting-place for three of these six books; and it is interesting to see how widely their authors differ in their treatment of Ancient Rome, its Colosseum, the gladiatorial combats and the martyrdom of the Christians in the arena.

R. J. Unstead provides a very readable account of gladiators and wild beasts enlivened by a helicopter view of an amphitheatre, partly cut away to show the spectators and contestants. Almost all the support network in this book is seen from a similar bird's-eye view of the world, and although this

type of picture shows a lot of information from a high viewpoint, it inevitably hardly ever involves the reader directly in the excitement, fear and terror of the actual arena. Even so this is a fascinating, fact-filled information book telling the story of several great city-based civilizations, and as such it can be highly recommended for the school or classroom library.

Life B.C. by contrast is a textbook which was originally written for use in junior secondary schools in Australia. It is a large landscape-format paperback of 148 pages, printed throughout in full colour, and conveys clearly and concisely the significant characteristics of nine great civilizations: Sumer, Egypt, Indus, China, Crete, Mycenaean, Persia, Greece and Rome. Each is treated in turn to a topic-by-topic analysis on two facing pages. Text, and sometimes muddy full-colour illustrations, provide the basis for activities designed to test understanding of the information in the book, to promote research tasks and to provide opportunities for creative work. In contrast to the other books reviewed here, Glen Garden uses colour photographs to convey the reality of the Ancient World. In his pages on Roman entertainments he uses photographs of the Colosseum today,

a Roman painting and a comic showing gladiators battling wild animals, together with a humorous picture taken from Asterix the Gaul.

Lively presentation and accurate information in *Life B.C.* and a child's assignment to get a "real opinion of the game" from the dramatic double-lion's view of the arena makes such an exciting input. Plantagenet Somerset Fry's *Roman World* in Macmillan's series really do put the reader back into the cockpit of history and convey vividly what might have been like to ride a Saladin or Genghis Khan. At its alternate opening a map of the world shows the Roman Empire at its greatest, and the four 46-page books in the series, and they alone justify purchase price. They are supported by many well-captioned black and white photographs and contemporary illustrations, together with short but relative dull text. Inspiration of the author is quite matched up to that of artwork.

Man/machine

The Machine Breakers. By Angela Bull. Collins £3.95. 6 195223 4.

"Pitilessly, the candlelight exaggerated the shadows on their gaunt faces... starvation and care had drained from them all the gaudy of youth. They sat in silence, brooding. A graphic picture of Luddites being 'twisted in' makes up the first chapter of *The Machine Breakers*. It is not, however, a work of fiction but a history of Luddism, written for secondary school children.

Dramatic reconstruction gives way to a more factual account in the remainder of the book. The author draws on contemporary source material, newspapers, novels and popular songs, to illustrate her narrative. Ample illustrated with contemporary pictures and documents the book is very readable and has won the Catterall Award for "non-biased" children's writing. It aims to raise issues relevant to today by telling of ordinary people: with whom its readers can identify.

In some ways Ma Bull succeeds admirably in her aim. Against the background of the immense changes wrought by the industrial revolution, the misery of unemployment and bad working and living conditions in the early nineteenth century, the actions of the Luddites are related sympathetically and in detail. They are shown to have had great courage, determination, organization and popular support in the face of drastically repressive counter measures adopted by the Government. The traditional picture of indiscriminate violence is patiently undermined.

However, the past is still presented as a series of events, as a story without much critical analysis. The last chapter tries to draw out the significance of the Luddite movement and yet does not discuss perhaps the most interesting and relevant question, the reasons for the failure of the Luddites.

The Luddites attacked the apparent cause of their distress, without understanding that the great economic and social forces with which they were grappling. Without understanding, they were bound to fail. The book concludes: "Nor is their battle over. Modern technology offers the same kind of threat to employment that the shearing frames once did, and the conflict between men and machines still remains." To pose the problem, simply as that of men versus machines is to ignore the later history and debates of the labour movement and render a disservice to young people facing today's unemployment.

Mary Anne Woolf

Humane art

Michael Ch

Egyptian Art. By Cyril Aldred. Thames and Hudson £7.95 and £3.95. *The Art of Egypt.* By Shirley Glubok. Macmillan £5.75.

Cyril Aldred's eloquent ability to weave facts, insights and interpretations into a compulsively readable account sets his book far above the clogged texts that too frequently pass for art history.

Glubok, with his belief that Egyptian art represents ideograms writ large, Aldred says of the Egyptian artist's vision that: "His perception of the forms of nature was derived from a fusion of several aspects recollected in the tranquility of his mind and not captured as an instant revelation to the seeing eyes." This, while elegantly expressed, is not an uncommon view; but Aldred is able to show us

not only what formed this art, but also what, in the social, political and religious environment caused it to change various times.

In showing what distinguishes the art of Akhenaten's reign, reveals an acutely attentive eye, overemphasizing its domestic secular subject matter by placing it in the new divine realm.

It is, perhaps, too much to expect *The Art of Egypt* to contain any similarly perceptive revelations, but it surely ought to bring art alive for us. Shirley Glubok's information is sound and clear, but the work is somewhat slipshod through her fingers. Art merely illustrates history, as for Cyril Aldred history is to illuminate art.

Otherworldly

A-Z of Ghosts and Supernatural. By Jan Knight. Illustrated by Valerie Littlewood. Pepper Press £3.95. 560 74509 5.

Books about the supernatural proliferate like weeds. Jan Knight's small offering for the Christmas stocking trade ranges from Demons to Duppies and Halloween to Hypnosis. I have never been able to understand the English fixation

with occult phenomena of one sort. Presumably many people prefer contact with ghosts to human beings.

Ms Knight recommends her teacher of "creative drawing" in California maintains people learn how to control their own energy. After deciding what you will do about and forming this into a short clear statement, "Tonight I shall dream I am a witch," you "relax" and repeat the statement over and over and concentrate hard on it.

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Nautical knots

Frank Eggleston

Sailing. By Gerry Smith. Lillie & Jenkins £5.95. 214 20640 8. *Better Sailing.* By Harvey Wells. Edited by John Chamier. Lillie & Jenkins £3.50. 7182 1466 8. *Canoing Complete.* Edited by Brian Skilling. Lillie & Jenkins £7.95. 7182 1211 8. *Sea Canoeing.* By Derek Hutchinson. Black £6.95. 7136 2005 6.

Too many publications on the art of sailing are no more than a leisurely exercise in reading with the author, single-handed of course, scoring full marks for his own knowledge and skill.

Sailing, a programmed learning course, dispenses with the sermonizing and settles for nothing less than apt attention by challenging its reader with constant but enjoyable questioning and tests designed to make sure that what is being explained is understood.

Mr Gerry Smith, who has been teaching sailing for the past 25 years, is ready to assume that his reader knows nothing, or next to nothing, about sailing. Sets of facts (referred to as units), ranging from steering to mooring, are explained in the simplest terms and with

numerous diagrams to illustrate each "lesson". Then come the questions from which the correct answer must be chosen from several possibilities. The right decision ensures steady progress; wrong answers are explained and corrected with infinite patience and care. Even those who know how to sail will enjoy the pleasure of pitting their knowledge against this particular expert who has been dabbling about in boats since he was old enough to walk.

Better Sailing is an old friend which has been completely revised and updated since its first publication in the United Kingdom some 10 years ago. Written primarily for the younger sailor, this robustly bound little book provides an absorbing mixture of sailing history, and settles for nothing less than time, how to improve a small boat's performance with an insight into competitive sailing, and a glossary of essential nautical terms. The building of a sailboat, which is explained in detail, would appear to be well within the capabilities of any young enthusiasts working under the supervision of a good woodwork master.

Canoing Complete is another book which has stood the test of time and now appears in a revised

and enlarged edition and should satisfy the needs of every "paddler" from green beginner to those bent on reaching international competition standards.

Canoing has become one of the most popular sports among young people today, with its experts tending to specialise in a wide range of events, each demanding different skills. Believing that no one man could be expected to write on a sport with so many variations, Mr Skilling asked a team of experts to write about their own speciality, and this revised edition they are joined by several new contributors. As a permanent source of reference, *Canoing Complete* will appeal to all canoeists, whatever their level of ability, and well deserves a place on the shelves of the school library. For Derek Hutchinson there is nothing so challenging as the sea, and in *Sea Canoeing* this acknowledged expert and expedition leader discusses the right type of equipment, canoeing techniques, deep-sea rescues, weather and navigation with all the authority one would expect from a "paterfamilias" who, a few years ago, led a canoe crossing of the North Sea and arrived at his planned destination 31 hours later, having been out of sight of land for all but an hour.

One small step...

Exploration and Discovery: Man on the Moon. By John Becklake. Solar System. By Sue Becklake. Undersea World. By Thomas Wright. The Changing Earth. By Ian Mercer. Macmillan £2.50 each.

This is a series of clear, simple, heavily illustrated A4 size books pitched at a level appropriate for an eight to 10-year-old. They make a nice overall package describing our immediate surroundings (although a fifth volume on the workings of the atmosphere would round the series out), and the illustrations are well chosen and informative. The text, however, falls a little short of the highest level of accuracy, and the style is sometimes clumsy. No man has set foot on the moon since the Apollo 17 astronauts left on 14th December 1972. There are no plans for him to return there in the near future. So the books are not quite as good as they might have been if the series editor, John Becklake, had taken a little more care.

Man and the Moon, Becklake's own contribution, is the best and sets the standard against which others can be seen to be near

missed. Picking out at random a selection of infelicities from the other three, we have a radio telescope used particularly for studies of distant sources captioned as being the type of instrument used to study the Sun and Jupiter; what looks like the Clomar Challenger described as the ship which carried out "Operation Mohole", a drilling project which, in fact, never received funding and remained only an idea; and a description of the origin of the earth and solar system which, by stressing that it is made of "elements" fails to bring out the important point that most of the universe (and most of our sun) is made of hydrogen, with everything else (including ourselves) just a tiny trace of impurities. The only major flaw I could find, however, is the failure to distinguish between Wegener's ideas on continental drift and the very different modern theory of plate tectonics. Those quibbles should not put a prospective purchaser off, since the series remains excellent value, substantially accurate, and just the thing to encourage an interest in science among young readers. My own not-nearly-eight-year-old had to be prised away from *Man and the Moon* in order to get to school on time!

John Gribbin

Heat, not light shed

Making a Book. By Althea. Illustrated by Tim Hunkin. Making Television Programmes. By Peter Wiltshire. Illustrated by Tim Hunkin. Dinosaur 60p each.

The difficulties of explaining computer typesetting and offset lithography to small children are considerable. In *Making a Book*, Althea Brailwaite and Tim Hunkin do not surmount them. They needlessly juxtapose pictures of photo-setting and hand hot metal setting without taking the time to explain the difference between the processes, and confuse the reader with some curious production techniques. A large amount of space is given to listing the stages of film process-

ing and plate-making, and none at all to the offset process. The basis of lithography, the repulsion of grease and water is never mentioned, yet it is surely more comprehensible than, for instance, the unillustrated statement that "Using powerful lights which shine through the film, the image is then transferred onto a thin metal sheet called a printing plate." The drawings are full of fuzzy, unnecessary detail.

All in all, both text and drawings of *Making a Book* give an object lesson in how to ignore the salient and bewilder with the peripheral. Peter Wiltshire's *Making Television Programmes* is more simple and direct, and gives the interested child a clear insight into the workings of a television studio. Neil Philip

Bring on the clown

Incidents in the Life of Joseph Grimaldi. By Patricia Neville with a text by Giles Neville. Jonathan Cape £4.95.

Patricia Neville is an artist whose exhibitions of paintings on the theme of English Eccentrics, seen at the Port of London Gallery in London, have won her a considerable following. In recent years she has concentrated upon the nineteenth century comic genius, Joseph Grimaldi, and the result is the present volume. Though these charming and quirky pictures many a child will discover something of the magic world of

the great clown and actor. One of the most evocative paintings depicts Grimaldi's visit to a fellow clown, Bradbury, in a mental asylum. The painting is composed so as to suggest a nineteenth century theatre, across from each side of the picture and meet overhead, forming a proscenium arch. In the foreground is grass and a fence marks the edge of the stage. On the grass, like the audience crowded into the pit, are dogs, cats, horses and sheep. In the background, all that is happening "on stage" outside the pink bricked asylum, stands Grimaldi, in full costume, holding a bunch of flowers, accompanied by a dancing bear, while at a window above the front door stands the mad and solitary figure of Bradbury looking down.

The text by Mrs Neville's son provides a simple factual background to these fanciful paintings; but he has consulted only two books, and altogether failed to refer to a major work of research, *Harlequin in His Element* by David Meyer. Mr Neville tells us simply that Grimaldi was a very very funny man, but what he does not reveal is that, in the hands of Grimaldi, the pantomime was transformed into a powerful vehicle of satire, comparable in its social impact to *Private Eye*. Nor does he tell us anything about the technical range of Grimaldi, far beyond that of any comic actor today. For Grimaldi was an acrobat, a juggler, a swordsman, a dancer, a singer, a mimic. In addition he made his own jokes; many of them elaborate visual jokes; designed and painted scenery; arranged sword fights and choreographed dance sequences.

But buy the book for the pictures. It will make an ideal Christmas gift for many a child and many an adult.

James Rose-Evans

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School radio
Books Plays Poems
Wednesday 2.20
Theatre Workshop
Monday 11.40 (fortnightly)

In *The Story Inside*, a published anthology of short stories first commissioned for *Books Plays Poems*, producer Stuart Evans recalls that the aim of the series has guided for a decade is "first and foremost to help its listeners enjoy good literature, to get into the habit of reading, listening and refusing to put up with rubbish". A second, conspicuously successful aim has been to make its largely teenage audience want to write themselves, and to this end the programmes have consistently introduced new writers alongside established ones, and readings from well-established books, plays and collections of verse.

This term's first unit brought together a characteristically diverse and challenging quartet of stories

different in mood, style, delivery and origins. In "Dark Fruits" (September 24) Julia Jones returned to the same family she has previously explored in the series. It is mid-summer and 14-year-old Nell feels an unexplained foreboding about her mother's illness. Her preoccupations stay restlessly with her in active course of a day's outing, only to be further confused by the attentions she receives from the enigmatic and earthy Edward. The unspoken relationship between father and daughter is sensitively charted. The very sardonic humour of Blain Fairman's "A Reluctant Runaway" (October 1) owed much to the worlds of Thurber and Salinger. Set in the deserted wastelands bordering on Moose Lake in the Canadian North, this jaunty tale of two sons forced to leave home by their importunate father and long suffering mother offered an alternative and equally honest picture of adolescent crisis.

Elizabeth Troop's "Dry Bones" (October 8) was less appealing, a slowly unfolding mosaic piece with a somewhat fanciful conclusion. The elements of fantasy, with

Susan falling for her fossilised, ignored, and amusingly observed but the story as a whole fails to convince. The same problem of credibility and accessibility for the teenage listener beset Diana Bishop's powerful and lyrical vignette "The Rest Of Heaven Was Blue" (October 15), a variation on D. H. Lawrence's "The Man Who Loved Islands" and a likely contender for the Afternoon Theatre slot.

The second unit of the term (starting October 22) features a six-part dramatization of *Nicholas Nickleby*. Judging on selected extracts, Elizabeth Proud's achievement in condensing over 800 pages into under three hours is notable for preserving the central themes and flavour of the original, and sustaining the rattling pace of the action.

BBC Radio's drama coverage for secondary audiences comes in two tiers: *Drama Workshop* is intended as a resource for 11-13 years, while *Theatre Workshop* steers more towards CSE and O level drama and theatre arts courses. In fact this term's output will be of certain value to all students studying a Shakespeare text, the first transmission "On Shakespeare's Stage" (September 29) having been an adventurous, occasionally over-ambitious exploration of how Shakespearean drama works on a three sided thrust stage.

The radiovision's filmstrip focused on a model of the theatre and how Shakespeare's audiences would have seen the plays staged together with an analysis by Shared Experience, a contemporary group of five actors, of their approach to an interpretation of *Cymbeline*. As an introduction to the "wooden O" the filmstrip was illuminating, but the potentially fruitful discussion of stage conventions—the role of props, scenery, lighting and audience—fell short of its mark.

The next three programmes (October 13, November 3 and 17) study textual detail in *Macbeth* and *A Midsummer Night's Dream*, the interdependence of speech rhythms, imagery, plot and character development, and the nature of poetic diction. The commentary is lucid, incisive and thoughtful.

by Roy Blatchford



Fleur Chandler as Lady Blanche in a "Village at War", a drama unit about an ordinary village in the twelfth century, the second part of which goes out on October 28.

Briefings

Radio and TV
OU and CE

That's the Way the Money (Saturday, 11.00 BBC2)

The first programme in the course "Energy in the Home" at comparative running costs. Trueman explains where the money goes and assesses different fuels. There's more to Number 10 Counting (Sunday, 10.35 BBC2) measurement including a special zoom from outer space about atomic particles. Also studied: connexion between decimal fractions. Working for Safety (Tuesday, 10.15 BBC2)

Seven films examining the safety and responsibilities involved

Reith Lectures (Wednesday, 19.45 Radio 4) This year, Reith lecturer is Dr. Kennedy, Reader in Law and Ethics at the Centre for Law, Medicine and Ethics at King's College, London. Before beginning the lectures next week, he discussed ideas with Robert Kea.

For schools

A Good Job with Prospects (Monday, 9.00, Friday, 14.35 BBC1) Fifteen to 18 year olds look at the role and function of trade unions, and contrast them with associated and professional bodies. In "Once United, Never Divided" (Monday, 9.30, Wednesday, 9.50 ITV)

In "Height, Length and Measure" four to six year olds consider that the tallest object is also the longest. They learn to use a measuring stick.

Action-Tell (Monday, 10.40, Friday, 10.15 ITV) The last programme in the first year pupils go off on a trip to Boulogne, shops for a day and shows how to deal with a lost dog.

Look and Read (Tuesday, 9.50, 9.52 BBC1) "Sky Hunter" an exciting about peregrine falcons. Welsh Telegram introduced in year-olds and teachers are to learn words and acrostics as well as work on coins and grams.

Watch! (Tuesday, 11.00, Wednesday, 14.01 BBC1) In preparation for bonfire night, six to 12 year olds learn about the history of the festival.

Poetry Corner (Wednesday, 9.50, 9.52 BBC1) Five and six-year-olds hear poems and poems about the Fifth of November.

Power Supply (a new unit for 13 to 14-year-olds, begins on 13 October) concluding that the "Coal" conclusion is that exploration and assembly in a design team along with research drawings and other information. The folder, a practical work form, the individual answer to the problem, designing and making offer

CRAFT, DESIGN AND TECHNOLOGY



A group of teachers on the 1979 "Developments in CDT" course held at Loughborough, trying out the hot air balloon made at the beginning of the course.

AN ADDED DIMENSION

By John Swain

Mr Graham Savage suggests in an article entitled "The Technical Breakthrough" that a necessary part to our thinking is being applied to the shape of industrial recession and for this reason a "tiresome industry" is likely to become a "desirable reform". He is referring, of course, to the place of design and technology in schools. It is true that over the past years a growing number of teachers have demonstrated how important these subjects are in the curriculum of all boys and girls. Their work has gained recognition and much needs to be done before the technical breakthrough is achieved.

The central change in the teaching of craft, design and technology (CDT) is the recognition that although skilled workmanship is important it is insufficient. All CDT teachers seek to achieve fine workmanship, many now aim for added dimension. "Intellectual training" is that is, designing, planning, making and testing. These four words are often reduced to the shorthand phrase "designing and making", but the implied similarity is deceptive.

The process of designing and making is an educational process which is an experience which is different from any other. It is a process which each boy or girl, although the starting point may be common, the aim is to help pupils, through a careful examination of a problem, to develop ideas about possible solutions. This may result in several solutions which appear to satisfy the requirements and further work, by way of detailed drawings or models, may be required before a solution can be realized. Even when a solution has been made the work is incomplete. How well does the original specification? What improvements might be considered? If time were available to make changes, what would they be? Answers to these and many other questions need to be considered along with research drawings and other information. The folder, a practical work form, the individual answer to the problem, designing and making offer

opportunities which are not necessarily available in other parts of the curriculum. Pupils may be faced with problems to solve for which they have too much or too little information. They often need to seek further information from books or teachers and they will certainly need to use knowledge which has been gained elsewhere — at school, at home or from a local college or firm. They may find that several projected solutions seem to be satisfactory. Decisions have to be made, therefore, which take account of the time available, the cost of materials and the methods involved in making. This adds up to a demanding but satisfying way of teaching.

Many problems arise from needs in the home, school or in the local community. In the past it may have been sufficient for pupils to rely on a knowledge of how materials are shaped, on methods of construction and general workshop techniques to resolve these. This is no longer true. More and more, solutions to problems require a knowledge of technological concepts involving energy, communication systems and control in addition to materials. This opens up a whole new area of work—school technology—for which teachers are devising ways of working and examinations which will assess results. Developments of this kind imply changes in the initial education and training of CDT teachers. They also make heavy demands on existing teachers many of whom seek courses of in-service training.

In-service education and training involve a partnership of a number of groups and institutions—schools, colleges, universities, i.e., teachers, centres, advisers and T.M.I. The latter half of the 1970s has seen a growth in the opportunities available and experiments with different modes of in-service training. Courses range from one-night stands to those which occupy a full year or longer and culminate in the award of a higher degree.

Over the past few years there has been an understandable increase in the number of courses at local level devoted to aspects of safety. This is a direct result of the implications of the Health and Safety at Work Act which made employers responsible for ensuring that training was adequate. Fortunately much of the safety work has been completed. Attention is once again focused on curriculum development. Courses are available in many areas for teachers who need direct assistance in coping with new examinations for both 16-plus and 18-plus boys and girls. This is a significant development. As important are the new numerous teacher study groups which meet immediately after school to discuss and make recommendations about present trends in CDT. These groups, with the support of an adviser, often produce a paper or booklet for use in all schools in the authority. Thus all benefit but, as with games, it is those that take part who gain the most from the action. Topics which have been considered are "The place of CDT in the curriculum", "A level examinations", "Courses for 11 to 13-year-olds", and "Constructional activities in the primary school" but there are, no doubt, many others.

A further development at school level is of growing importance. It involves teachers in a department taking part in school-based service work using outside help when it is required. This is, perhaps, the most effective but the most demanding of all the ways of moving forward. It demands considerable collective discipline, careful preparation and therefore a commitment beyond the time required for regular meetings. In terms of results it can lead to clearer objectives, greater coherence in teaching and, of course, lead to considerable benefit to pupils. Sometimes all the staff of a department have attended a local or national residential course as part of a school-based in-service programme.

Within the Department of Education and Science programme of short courses there is a number of courses designed for teachers of CDT. These bring together teachers from a variety of backgrounds and offer particular opportunities for those wishing to make changes

in their methods of teaching. The courses are likely to prove helpful to a group of teachers from the same school or lay area. They aim to provide teachers with an opportunity to experience designing and making within a particular sphere of work and for the preparation of design briefs for use with pupils. Some groups and courses concentrate on school technology.

Many teachers look for courses which lead to an extra qualification. The opportunities here have increased considerably. A part-time BEd course in school technology at Trent Polytechnic is popular and attracts 30 CDT and science teachers each year. At the Royal College of Art there is a two year course leading in a masters degree in design education of which one year is full-time study. This course is designed for about a dozen teachers of art, CDT, home economics, dress and fabrics. At Loughborough University of Technology a part-time MA in creative design is available and provides an opportunity for further study for around 20 teachers. There are also opportunities for full and part-time courses leading to specialist and general education degrees and diplomas. The College of Craft Education membership with honours course is also available. This is largely home-based study and one unit of it may

be the popular Open University course, "Technology for Teachers". Another involves attendance at a summer school held at Leeds Polytechnic. The other summer school organized by the College is held at West Dean College and both schools attract non-teachers as well as teachers.

In-service opportunities, national, regional and local, are essential for teachers of CDT at a time when the subject is changing so rapidly. If the changes are to be consolidated and offer real improvements in the education of pupils then the partnership concerned must ensure that appropriate courses are available. Perhaps the best way of making certain of this is for teachers themselves to continue to demonstrate their readiness for change.

- (1) *School Technology*, pp 16-18, September 1980.
- (2) *Craft Design and Technology in Schools: Some successful examples*. HMSO 1980.
- (3) Information is available in *Short Courses for Teachers*. DES and the Welsh Office Education Department. Published annually.
- (4) *Long Courses for Teachers*. DES and Welsh Office. Published annually.

John Swain is HM Staff Inspector, Craft, design and technology DES.

Reactivated concerns

BBC 1
Nuclear Power
Three programmes beginning October 13, 11.40 am, repeated October 14, 12.05 pm.
Genetics and Society
Two programmes beginning November 24 and 25, same times. Open University General Studies.

The question of nuclear power is perhaps obscured as much as it is illuminated by the ramifying bulk of facts, arguments and opinions. It therefore comes as a welcome relief to discover a straightforward, unpretentious account of some of the factors.

These three programmes, cheaply but effectively made in black and white, constitute an excellent introduction to the area. They examine how nuclear power works, the potential risks, and the possible alternatives for meeting our energy needs. It must be said that the programmes are made only from the "anti" point of view—justifiably so, one may feel, in view of the

far greater capacity of the nuclear lobby to make its position known. Dr Charles Wakstein, an American scientist who used to design reactors and now campaigns against them, is interviewed at length about the risks of cancer and leukaemia from escaping radioactive particles; and Michael Flood, the Friends of the Earth energy spokesperson, discusses the minutiae of the British situation. They isolate three main areas of concern: the risk of leak or malfunction in the reactor itself (accompanied by film of the Three Mile Island control room at crisis point); the risk of the escape of deadly and long-lived waste products; and the steadily escalating cost of nuclear power, which eats away at the main argument in favour of its use.

The third programme, "The Options", looks briefly at a range of alternative energy proposals. Like a lot of work in this area it is perhaps over-cautious in its implication that our planet is dripping with abundant, readily available, non-polluting and cheap energy: a wonderland of wind, wave, sun, and water hyacinths (fast-growing weeds

which consume and neutralize toxic waste while providing an efficient source of methane gas). The energy is there all right, but getting it can be quite a problem. The programme points out that a solar panel costs more energy to produce than it will return in 30 years!

"Genetics and Society" is another useful unit, though surely the subject merits more than two programmes. "The Discoverers" looks at the development of genetic theory and techniques of manipulation; while "Genetics and Food Production" is a brief guide to the techniques existing or under development for increasing food resources.

Everything from the ancient craft of selective breeding through the insertion of nitrogen-fixing chromosomes into cereal genes to the "cloning" of identical twin lambs. And just at this point—where potentially sinister implications for human society begin to emerge—rivaling are the dangers of nuclear power—the same ends. On the way, however, it provides clear, crisp and informative data, and very impressive film.

by Nick Thomas

Being careful

by Liz Heron

I Said We've Got to be Careful—video/cassette 17 minutes B&W and colour. Produced by Liberation Films with the National Abortion Campaign, 2 Chichester Road, London NW2 3DA. Each cassette hire: £6.00 sale: £22.00

Every week an average of 30-40 letters from school students all over the country arrive at the office of the National Abortion Campaign in London—all requests for information on the subject of abortion: a sign that it is far from being the taboo topic it once was, and that it undoubtedly crops up in several areas of the curriculum.

Since its formation over five years ago NAC has always regarded the extension of education about sexuality and contraception as a vital part of its aims, and a current result of the round of campaigns that have consumed its energies over the last few years has provided an opportunity to devote some resources towards meeting what is an evident and growing need for educational material. The result is a video film, made in conjunction with Liberation Films and intended to be used as a discussion trigger with the age range of 14 upwards.

Eschewing polemics and by-passing all the familiar arguments, *I Said We've Got to be Careful* aims to explore the emotional and social landscape that might form the background to the abortion.

A thread of fictional narrative—the story of a young nurse who finds herself unexpectedly pregnant—is combined with documentary interviews that draw out the underlying complexities of such a situation. Dramatic interest is sustained through the nurse's story and the interviews are enlivened by skilful editing. The four who face the camera constitute a mix that supplies a variety of perspectives: three white, one black; one young and three women, one in her thirties and married with two children.

Expressed in these accounts is a multitude of thoughts and feelings about sex, relationships, parenthood, responsibility as well as the existence of a variety of pressures and differing practical circumstances: anxiety, fear of seeming inexperienced and not "in the know", coupled with ignorance and lack of access to contraception, the realization that having a child is only the beginning of a chain of responsibility that stretches a long way into the future.

At the same time the relative safety and effectiveness of different contraceptive methods is raised, so much ground is covered that the tape could easily survive repeated viewings, each time prompting fresh questions and discussion. Accompanying teachers' notes are provided and a set of comic strips designed for young people is also available at a charge of £10.

The art game is a joke

FILM
Somewhere in Hackney
Colour, 16mm, 50 mins.
Made by the Arts Council of Great Britain, distributed by Concord Films Council Ltd, 201 Felixstowe Road, Ipswich, Suffolk.

"The whole art game is a joke anyway. I think it's a waste of money," says a member of the public during *Somewhere in Hackney*. The premise of community arts is that since the art establishment is elitist, new structures should be created which will enable ordinary people to express themselves.

Curiously, this often has the effect of setting up new establishments that are quite similar to the old ones. The other main criticism of community arts is the one made by the original artists themselves when they call it "social work art". Both these complaints could be seen to be justified: if *Somewhere in Hackney* were the only evidence of artistic activity within communities.

From the opening shots of the working classes trudging around among the litter of Dalston Junction to the limply running-up sequence, the film is stolidly earnest. It concentrates on four very different projects: Free Form, who are street performers; Lenthall Road Workshop, a print centre; Hoxton Hall,

by Frances Farrer

where they present plays and have social clubs; and Contrapuntal, a bookshop/publisher and social centre.

All these projects have value which is not shown. There's a good deal of sixties style road music, heavy commentary, and listening to community art workers, but very little from the participants.

Somewhere in Hackney gives no inkling of how much of the artistic effort is generated by the people who are supposed to be doing it, but it gives an awful impression of yet another set of impositions being added to all those that already exist. Create a culture that belongs to you? On this showing, not very likely.

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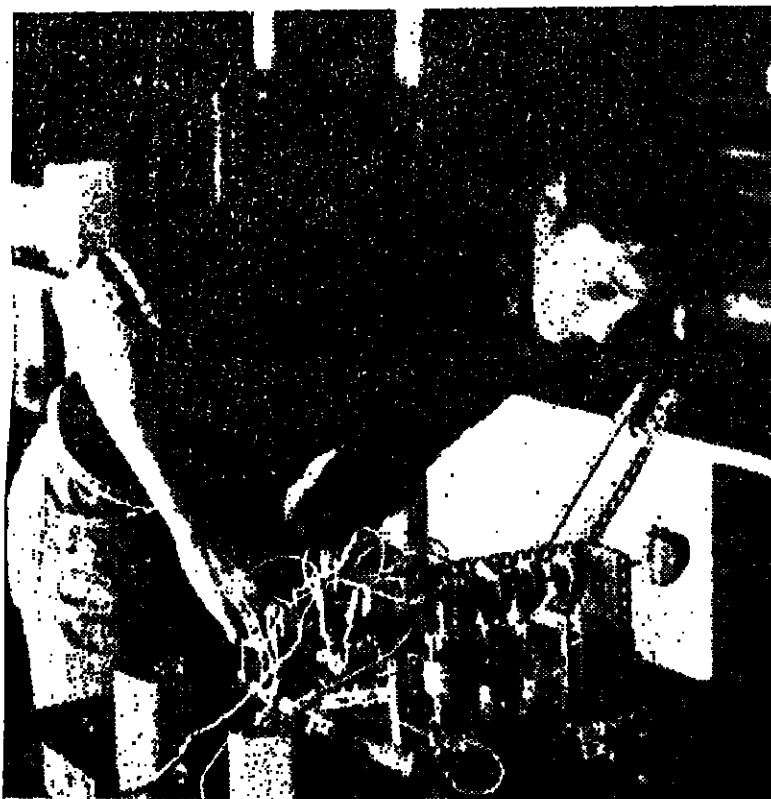
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BRIDGING THE DIVIDE

John Hardwick on 'A' level developments in CDT



"O" level control technology project work. Mobile crane with a programmed sequence of operations at Kirkley High School, Lowestoft.

Much has been said and written in recent weeks about the inadequacies of the A level examination system as a preparation for a rapidly changing world. It rarely permits the study of more than three subjects, and these are frequently grouped to form an arts or a science triad. When schools should be attempting to educate pupils for a world where change is the only certainty, a broader post-16-plus curriculum is needed delaying specialization and providing a foundation for the re-education which will be an inevitable part of the lives of citizens of the twenty-first century.

Whatever the emerging examination pattern proves to be, syllabus content must be critically examined

and it is appropriate to begin with the existing syllabuses for craft design and technology. An analysis shows that at advanced level the technological content can be slight. Broadly speaking, syllabuses tend to be blatantly scientific or have a bias towards the aesthetics of functional design. The science-based courses can include considerable laboratory time spent proving known phenomena. Such syllabuses often have a credibility in academic circles because they duplicate work already included in traditional science courses. The aesthetically based courses have the virtue that they lay emphasis on the creative activities of the workshop. But it is possible to do well in such a

course with only scant understanding of the mathematical or scientific principles that order our world and enable us to harness the forces of nature, or of the restraints upon our progress.

Any advanced level syllabus purporting to be technological must not exclude any one of the accepted disciplines. Failure to include opportunities for ingenuity and creativity would render it as meaningless as a technology that is unable to quantify stresses and strains, to calculate the costs of materials and manufacture of an artifact, or to understand the social and environmental impact of an invention.

The development of enlightened examination courses at CSE and O-Level has precipitated the need for an A-level follow-on of some kind. This applies particularly to two courses: the modular Technology examination produced by both the Oxford and Cambridge Boards and the Control Technology examination of the Associated Examining Board. The clarity of these syllabuses should be commended as a model to all in the business of examining.

Candidates follow a clearly defined course and at the end of it are expected to pass conventional examinations which produce a project that satisfactorily resolves a technological problem. The examining techniques employed are, fiercely expensive when compared with some other subjects and the examining bodies are to be congratulated in recognizing the need and demonstrating a willingness to sacrifice income for educational return.

An advanced level technology course is needed that does not treat technology as a new and separate subject but as a development of the courses propounding the design process, its inherent decision making and its application to the solving of technological problems culminating in the self-critical evaluation of a solution against the original specifications.

One of our national failings is our inability to attract sufficient numbers of sixth-form girls and boys, who have the aptitude and ability, to the world of engineering. It should be our goal to produce a stimulating course generating a high degree of technological capability among pupils taking advanced level physics and mathematics, though it must not be overlooked that the professional engineer is not the sole arbiter of a decision likely to effect a community or nation. It is equally important that many more sixth-formers, possibly with supporting arts subjects, are given a technological dimension to their education, enabling them to become informed decision makers in an essentially technological society.

Every A-level course needs to have some currency in institutes of higher and further education and it is extraordinarily difficult to encompass the goals outlined and devise a syllabus bridging the cultural divide that exists between the sciences and the arts. The body of knowledge clearly stated in a technology syllabus is important but is insufficient on its own. It must lead to a high degree of pupil confidence enabling them to overcome technological problems with workable and well made solutions. Pupils should also acquire comprehension and communication skills (both oral and graphic) enabling them to discuss technological issues with the informed and the ignorant.

Perhaps as important as the awareness of the rewards, resources and restraints of technology is an understanding that technology is concerned with working with people for the benefit of people; a difficult concept to teach to sixth formers at a time when for them, educational assessment seems to be a lonely occupation where the examinee pits knowledge and capability against the examination system, represented too frequently as combat with pen and paper.

An A-level Technology examination has emerged that accomplishes these aims. It has been produced by a group of teachers supported by staff from the National Centre for School Technology and working together under the auspices of the Cambridge Syndicate.

There is a common core giving a general insight into technology and candidates are expected to be conversant with such issues as the energy and power needs of society, the same use of material resources, the importance of mechanisms whatever the prime mover or control device, the development of systems, and some knowledge of the history of technological innovations. A study folder is compiled demonstrating evidence of personal research on a

stated topic. The topic for the examination is "the method of harvesting of root crops".

Four modules are offered of which two must be chosen. The modules are structures, materials processing, no real choice. These are important as a detailed study of their own right and as a source of inspiration upon which the project may be based.

Design thinking is required every part of the course is specifically tested in a three paper, giving an opportunity to demonstrate a sound knowledge of the modules, the ability to solve a problem, considering alternative solutions in a biguous graphical form, and giving a final solution with drawings.

A major constructional project expected of every candidate is a practical project, though included, would be the exception. It is accompanied by a including all relevant planning, correspondence, investigations, and calculations leading to the design. The marks weighting to the project is an encouragement to the belief that technology is essentially makers and not theoreticians only.

This syllabus has been approved by the Schools' Council and is limited to 16 schools for a period. The schools, however, in East Anglia but many must be overcome before the scheme can be widely taught. It takes a vast programme of training before the major serving teachers would be confident to teach this course.

The development of such a syllabus also highlights the recommendations concerning initial made in the School Technology working paper No 1, Education and Technology, as they recommend, all science teachers contain a consideration of technology courses include craft, design technology include a technological component that enables teachers extend the scope of the activity, real progress will be made for a long time.

J. N. Hardwick is County Technology Adviser, Suffolk Council.

A SUBJECT FOR SATISFACTION

By Susan Thomas

The best design departments beat the school illuminations, and Britain hands down for sheer visual and intellectual entertainment. The powers that be should timetable regular mid-term visits as a treat for faded teachers who feel that all the fun has gone out of life. Watch a group of 12-year-olds, cutting, bonding and collaging acrylic material to make boxes, holders, ornaments or jewellery. Look at the graphics produced by older pupils, free sketches, photographs, flow diagrams or isometric drawings, all exploring, developing, recording and explaining the design process. Or read their letters to local industry, government laboratories or university departments—just part of the research put into a project by the pupils.

It is a colorful experience. From the school design department, the pupils are stamped with a card for good design. The pupils react by behaving with unusual maturity and responsibility, and visitors (the place is always full of visitors) are treated to a series of "design" "beliefs", not invaders from outer space.

Although such departments are still lamentably thin on the ground, they are increasing in numbers. The attention focused on their work by the DOD's Young Engineer for Britain Competition, the Design Council's Schools Design Prize, have gone a long way to make the subject better known and more academically acceptable. But limitations of resources, teachers' money and in-service training courses, in cope with the constantly expanding body of knowledge (especially at the technology end of the spectrum) make progress slow.

The marvellous thing about the sixth form projects is that for the

bright pupil the sky's the limit. The problem is that as far as the staff are concerned, it's more like the "design" universe. Thus, Mal Evans, a hard-headed head of department at Orange Hill School, who has suddenly found that no less than four projects had been accepted for the finals of "Young Engineer", and that all had to be brought to a state of exhibition readiness together.

But leaving aside all the glamour of television and press coverage, what makes the staff so enthusiastic? From any point of view it is an immensely satisfying subject, a real dialogue takes place between teacher and pupil. A far cry from many classroom situations.

"I enjoy this subject more than most," said a very academic 13-year-old at Cliffe Middle School near Rochester. "I like working with wood, metal and acrylics, and I particularly enjoy being able to research and produce my own designs. This has been my most exciting project so far because I have been able to get out to talk to real scientists and engineers about my design problems."

He went on to spend half the afternoon with a Rolls Royce engineer, part of the Design Council plan to bring together the schools and industry. Heads bent over drawings and text books, they mullied over his plan to transform kinetic energy into electricity by using pressure pads situated in the road surface near junctions or tunnels.

The enjoyment of practical subjects is not restricted to the "thick" retained the grammar school ethos of insisting on behaving as if it were so. Far too many upper stream children still have to choose between CDT and a language or science. Just one more way in which the schools fall

short of the demands of the real world. We need, urgently, wide-based courses able to develop practical talents in all pupils, giving craft skills to tomorrow's apprentices, communication skills to the scientists and engineers, and confidence to deal with technology to the administrators. Above all, we need people with flair and design skills.

Our European partners, notably the Italians and Germans, have won the reputation for design which was once associated with British industry. A significant factor in their success must be the recognition which they give to practical education in general and design engineers in particular. It is not really surprising that spokesmen for all levels of industry, the DES and OECD are combined to urge schools to timetable CDT for all children from 11 to 16.



A 13-year-old at Cliffe Middle School, Kent, discusses her School Design Prize entry with a Rolls Royce engineer.

But CDT is not craft, or design or technology in isolation, and many schools, even those already equipped with workshops and craft teachers, are deterred by this amorphous intangible combination. The older generation of wood and metal workers generally feel unwilling to undertake the "demanding" new syllabus and new, one-year retrained teachers still lack the teaching and housekeeping skills essential for a smooth initiation.

How then to set up a design department? In the absence of successful units have been built up from scratch based on the grade 6 department. For a start, art teachers are well rehearsed in the design a bit amateurish about what is essentially a common sense, practical approach to problem solving, will

they are unlikely to recommend "doing it by numbers".

The cooperation between artist and craftsman is essential and needs to be of the most understanding order. Artists have a distressing habit of stirring the paint with the chisels, craftsmen of failing to appreciate that the right line might only be found intuitively. A lot of give and take is called for. With luck the science staff will ultimately be enrolled to bring the "A" as well as the "C" and the "D".

If you have a craftsman, a compatible artist can catch yourself a "retainer" or a newly qualified CDT teacher, you are on your way. Visit several of the thriving design-based units and if you come across a try to ignore the "design versus technology" argument. As the best

schools have already shown, it is nothing. Read the new CDT in Schools—some examples to gain an impression of the subject. The Design and Technology in Schools Curriculum, published by the Design Council, is a must for the background.

It is an exciting idea, it needs faith, a good I.E.S. service, boundless energy and ability to do without sleep. It can have a driving force, designing, exhibiting, making, library, exhibition, hall, house, a solar heating system, the pool or a drive-through car cleaning machine.

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GOING INTO PARTNERSHIP

Bryan Nicholson and Mike Dobson examine education/industry links in CDT

The biggest handicap perhaps lies in the word "link" itself. Education and industry have to move towards partnerships in the development of young people—and the partners must understand each other and the activities in which they should jointly be engaged. "Links" too often identify the role of industrialists as being concerned with the provision of redundant equipment, scrap material, factory visits, career lectures and work experience. They generally are careful to avoid "interference" in the curriculum.

In practice, however, a young person's transition from pupil at school to worker in employment is a continuous process which needs to be looked at as a whole. The skills and knowledge which are needed in life may be learnt at an educational establishment, at work or at home. What is important is that the community as a whole, and young people as individuals, should become equipped to meet the problems of tomorrow's technological world and the demands which it will make on future citizens. CDT should have a most significant role to play from both points of view.

How do schools view industry?

Not too many years ago any student teacher mentioning anything relating to vocational training would have been firmly told that education really had very little to do with commerce or industry. Education was for its own sake, whatever that might mean. Since then many in Britain have come to recognize that we are no longer a great colonial power, and that if we are to survive, let alone be affluent, we shall need to live by our own productive wits.

Jim Callaghan's Ruskin College speech ought to have been a statement of the obvious when he pointed out the need for industrial relevance in education. But was there ever any real dichotomy? Teachers had often reflected that when Latin entered the school curriculum, in the days when the grammar schools stood for just that, it was great in order to fit young people for a place in the Church. And in more recent times, what was a level chemistry for, if not related pretty directly to getting into university to get a job? People coming in from industry to teach technical subjects in schools often pondered

that industrial success seemed to have something to do with personal qualities anyway and wondered at the strange division.

Does industry understand CDT in school?

Experience makes us "expert" and we have all had experience of school. As parents, however, we discover that school is not as it was in our day—but concerns about discipline, books, school meals, transport, etc. leave attention to the curriculum itself largely limited to discussion of standards in mathematics. Few industrialists understand what CDT is seeking to achieve, although they welcome the objectives once they begin to be understood. Schools seldom attempt to explain their curriculum to local firms—let alone seek advice on it—nor should we. It is surprising, therefore, that industry reacts strongly against proposals for industrial skills to be taught at school. Nor is that an objective of CDT.

The value of CDT is not solely, or even primarily, for those seeking an engineering apprenticeship. The skills it exercises are transferable across subject boundaries and career paths. Its value lies, in particular, in problem identification and the methodical approach to inventing acceptable alternative solutions; the choice of solution, its implementation and validation, and finally its presentation and justification. These are the fundamental skills of management—whether of one's own affairs or of other peoples. They are of major importance for the leaders of tomorrow, and industry—if it understood CDT—should be urging its priority as an element of the curriculum for the most able pupils.

So what really are the needs of industry?

Last year, the School Council's Craft Applied Science and Technology Committee, carried out a piece of research over much of England with the help of advisers in L.E.A.s and industrial training officers in schools. We set out to discover what people who actually made and sold things for a living thought about the contribution of craft, design and technology in schools. For so long we seemed to have been told that industrial preparation was all about maths and science, physics in particular. While the firms did rate

maths and science as important, they were also prepared to say that the attributes of young people developed in school workshops were vital too.

Attitudes about practical work as well as more specific skills and knowledge were valued. It was fascinating to note that firms were prepared to assign high values to kinds of learning that they had hitherto failed to specify as important pre-requisites for employment in their firms. Like EITB, they valued planning as a school workshop experience, while emphasizing, too, the ability to communicate in a graphic form. The ability to work as a member of a team was given support, having both awareness of the world of technology and actual technological competencies were



Attitudes about practical work are so important as skills.

valued, as was the ability to analyse problems and propose designed solutions. Workshop craft abilities were seen as important, not surprisingly more for the would-be technician than for the operator or the student apprentice.

What can industry do for CDT? First, the speed with which CDT can develop in schools depends equally upon resources as upon attitudes. Of course schools will

think themselves short of expertise, of equipment and facilities. These are, however, a complex problem, and elsewhere in the local community—in industry or higher or further education—there may well be untapped resources which can provide a solution. The partnership should find them!

Secondly, by involvement in CDT, industry will be seen to be committed to it. (How many firms mention it in their literature?) This is particularly true of A levels in design and technology. There are many who are concerned at the views of some university departments about these examinations but surely those who excel in them, unlike mathematics and pure science, should be expected to be identified with wealth-creation (Industry) rather than the pursuit of knowledge.

Thirdly, without industrial involvement, problems will be created for the older school leaver seeking to enter training schemes. Logically, additional time at school should contain elements which allow for shorter transition and training for first appointment. As an example, a local arrangement allows recruits with A level in design and technology to enter directly into NEC Higher Certificate programme. It is expected that their initial progress in industry will be more rapid and enable them to "catch up" the extra years spent at school. The arrangement is attractive for all the parties concerned.

Fourthly, education today seeks confidence in the relevance of what it is doing. CDT is no exception. Industry must get acquainted with what is being done, help, advise and encourage its partner to develop the creative talents without which industry cannot prosper.

What is the way ahead? So what is the way ahead, given uncertainty for the moment about the number of industrial training places available to even good school leavers? First, we need to kill off the myth about a real difference in quality about what prepares for life and what for learning to live. The nineteenth century is really a long way behind us. We need to specify more clearly those transferable skills of both intellectual and practical kinds that can be developed in a school workshop and drawing office, given all the educational advantages of our area of work.

Then we need to ensure that the customer knows what he is getting. Is the school's version of design just an aesthetically slanted experience? Or are we able to help in the development of skills necessary in the design and technological design? The absorption of a new set of design skills will require an open mind and a recognition that change and a little relevance to pupil or school needs.

What is industry getting out of schools today? It is fashionable to complain about the quality of modern education but we should remember that 10 years ago craft apprentices served a minimum of five years, frequently nearer six. The standard of skill achieved by many of today's apprentices who complete the training in three years is high—and the target set by EITB in IP49 (ref four) of two years Certificate of Craftsmanship is not being met in some firms. Much of this progress depends on a fleet of continuing good standards of general education.

Communication and rationalization. While there remains a vital role to do in terms of communication about what schools are trying to achieve in CDT, at both local and national levels, it is also true that teachers and advisers must be the task of looking again at which kinds of awareness, knowledge and skills are most important. At a time when we are faced with the probability of a common examination at 16 plus and the need to rationalize our activity, especially the smaller schools, in the light of the falling rolls and financial stringency, the time was never more appropriate.

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From November 1 B. S. Nicholson will be Staff Inspector Design and Technology with ILBA. A. M. Dobson is Training Manager, British Aerospace, Weybridge.

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SEEKING A MATCH

M. E. Cadwallader, J. B. Heaton and R. Fenton consider the implications for schools of the Design Council report "Design Education at Secondary Level"

The Design Council is to be commended on the many publications, working parties and other consultative channels used in recent years to establish an awareness of the need to promote design education in secondary schools. The committee's paper on design education, circulated in 1979 was widely discussed. We feel sure that, by the time the final report reached the schools this September, the ripples of change were already in motion.

County conferences for head teachers have been held at Her Majesty's Inspectors. Courses and conferences have been organized by County Inspectors. In-service courses have been held at teachers' centres and within schools crossing subject boundaries. The committee's industrial concerns for creative endeavour, design projects, etc. have proliferated; such activities must have led to a reappraisal of what design education in schools is all about. An increasing recognition of the importance of design to the national economy and quality of life.

Undoubtedly design education is the concern of all pupils, of both sexes from the most intelligent to the least able and is an essential element in the curriculum of all ages. Our lives are constantly affected by the quality of design. The design process defined in this document as "seeking a match between a set of requirements and a way of meeting them" is central to the problem solving and creative approach used in many other areas of the curriculum.

We believe (perhaps over-optimistically) that the development of design activities—as defined in Chapter 4, is, in the vast majority of schools, well under way; that in years 1 to 3 pupils of both sexes, pupils of all abilities are experiencing some form of design education in art, home economics, craft design and technology courses; that in years 4 to 5 in some schools, but sadly not enough, this selection of at least one creative arts or "design" subject is compulsory for most pupils; that courses in technology are included in the curriculum of most schools. We fully realize that this is only the beginning and note that the Design Council Paper acknowledges the constraints and the problems confronting schools as the implications are considered. A head may be committed to a curricular framework which can promote the development of design education but this is no guarantee that it will blossom forth. School timetables which allow blocks of time, flexibility of staff and rotation of specialist teaching spaces within the design area will help towards the general aim.

On the ground floor, in the craft, art and allied areas, the battle for the hearts and minds of the teaching staff is not yet won. The CDT movement, the growth of faculty structures and the work of the Design Council has brought about a state of affairs where at least the design movement has credibility. This paper comes at a time when a restatement of the aims and objectives of Design education will be most appropriate. It is thus the teacher who has to be re-educated through service of training into a new set of "basic skills" must be those of planning and design. continued on page 33

WELL UNDER WAY

A Sheffield school makes the combined approach work. By John Catton

Yewlands is an 11 to 18 mixed comprehensive with some 850 pupils. Three years ago a major extension to the main building was completed and the design and technology department benefited by the addition of a large workshop area which linked the existing facilities.

The department now uses this open plan area which has some quiet corners. The intention at this time was to establish problem-solving design based courses to CSE O and A level in the upper school, and it was realized that these approaches had to begin in the lower school. We were to be successful. The possibilities for reorganizing our second year were considerable since the timetable gave us blocks of half year groups with approximately equal numbers of boys and girls.

Up to that time second year pupils followed the all too familiar rotation of groups with half a term of woodwork, half a term of metalwork... and so through fabrics, drawing and home economics. In rejecting this system of unrelated skills and class based teaching, we wanted pupils to approach the work as an integrated whole and not a bringing together of pieces. We wanted to teach skills but felt they should not dominate our work. Rather than thwart any creative talent, skills should support the main activity of designing. We now teach skills to individuals or small groups, when required.



Most pupils enjoy themselves as they explore materials.

Following much discussion and deliberation, our present scheme was introduced in September, 1978. Team teaching takes place for mixed ability groups and any one piece of work is introduced to the whole half year group approximately 90 in a single lesson. Work is presented as a problem to be solved or a need to be filled, the teacher attempting to interest and fire the imagination of pupils in that particular piece of work. Pupils usually begin by considering a variety of observations and ideas to paper developing this to the stage where they have an annotated "final drawing". This must communicate as clearly as possible what they propose to produce. The children then have the fun of the workshop area and move around, individually from one material area to another, as necessary, for the manufacture of their own work.

Materials may be limited to combinations of any of the following: paper, card, throw-away packaging materials, fabrics, woods and plastics, aluminium sheet, copper sheet, brass and soft iron wire, acrylic sheet, softwood and thin plywood. Some of the projects attempted to date with second-year pupils are:

- Blanks on the theme of "trees": simple profiles of different materials fastened to a backboard.
- Decorated containers with lids, using card centre tubes from rolls of fabric.
- Christmas decorations using "logs", expanded polystyrene, wax and acrylic.
- Three-dimensional class mural entitled "Sheffield".
- Wheeled toys for toddlers.
- Puppets on the theme of "space" (which have been brought to dramatic life in English lessons).

Mr M. E. Cadwallader is Head of Design, The Harwich School, Harwich, Essex. Mr J. B. Heaton is Head of Creative Arts, The Design Centre, 150-152, High Street, Weybridge, Surrey. Mr R. Fenton is Head of Design and Technology at Yewlands School.

Planning a kitchen, constructing a model, and the manufacture of simple kitchen utensils.

To avoid an individual loss of identity or direction, each pupil in our teams of 90 is attached to one teacher or "design tutor". There are five staff in each team. Pupils are usually required to make contact with their design tutor at the beginning and end of each session, at least. The tutor is also responsible for assessing work and completing departmental and school records and reports.

We have little need for formal technical drawing with 12-year-olds, but attach much importance to visual representation of ideas. Indeed we now teach an informal drawing course within the main design course to help develop pupils' freehand pencil work for speed, accuracy and clarity of communication.

Having worked the scheme for two years we have had confidence to plan 1980-81 in considerable detail. We base these plans on a structure of materials, processes and skills that are the underlying criteria for problem solving based projects. Constraints on materials or processes are therefore written into projects, yet within this teachers have much freedom to determine the type of work done, and may adjust according to the degree of success of any one piece of work.

The sessions are popular with most pupils although a few have seen an opportunity for mischief and abused the freedom of the situation. If peer group pressure does not solve such problems, offenders lose their freedom and are confined to one bench.

We have found that good organization is vital. Initially staff found it difficult to cope with the demands made by pupils requesting assistance. This type of teaching is very demanding, but that pace could not be maintained for long. Close examination of pupil requests indicated that more than half were for materials or equipment. Staff were overworked storekeepers! Pupils now help themselves to materials and equipment which are put out in standard locations.

We have suffered from the problem of pupils queuing but solved it by better planning and encouraging the children to think ahead. Pupils ask the departmental technician to work for them any machines which they are not permitted to use, since this leaves all reaching staff free for teaching.

A major difficulty has been the clearing away operation at the end of a lesson. We use colour codes to indicate positions of tools and equipment, but the difficulty with the numbers of pupils involved is in trying to ensure that everyone does their share.

In general we are well satisfied with the way this course is evolving. It is difficult to be objective when considering the overall success but certain things are obvious to us. Most pupils enjoy themselves as they explore materials and the ways they can be worked. They are producing work in quantity and on an individual basis. Despite early worries over quality of work produced we are satisfied that this is of a standard of craftsmanship equal to that of work made under traditional schemes.

Pupils are learning to think for themselves and to use their initiative when the way ahead is not clear. They are developing an open-minded approach, an independence of stand and an attitude to the subject which is essential before embarking upon design examination courses.

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A LIFETIME PROCESS

James Armstrong relates CDT teaching to engineering education in the '80s

The 1980s offer a challenge of an advancing technology, a shrinking world, a growing population, increasing demands for improved qualities of living, decreasing supplies of energy and resources; a world still struggling to escape from the exhausting and restrictive divisions of conflicting ideologies, the unbalanced distribution of resources and wealth, and the threat of pollution and destruction on a global scale.

The engineer's task is to accept and meet this challenge. The skills and understanding needed, while part of a lifelong educational process, are significantly influenced by the quality and measure of primary and secondary education, in which the introduction of craft, design and technology teaching plays a most significant role. In this article I have confined my comments to the value of this teaching to the subsequent training and skill of engineers.

There is disturbing and increasing evidence that advancing technologies are demanding ever higher training in these skills, while both industry and higher education are failing to attract and provide training for the necessary high calibre trainees and students.

The schools can play an important role in bridging the gap between

need and current provision—in attitude as well as in training. While confining my attention specifically to CDT education in schools and its relevance to engineering, this should be seen in the context of educating the individual in society to contribute to, and benefit from, all the various skills in that society.

The sphere of activity of the engineer is only one aspect of the complex web of activities in the life of a community. If our general education leads us towards an understanding of some fundamental principles of human relationships and of the basic laws of science, then we are better able to abstract accurate theories and images from our experience and training, and to use these in helping to meet the needs of others. Acquiring such fundamental knowledge is essential to the engineer in his direct work, and his recognition of the place of that work in society. If this central understanding is missing, there is a danger that the application of acquired techniques can spill over into environmental damage, pollution and the over-production of relatively useless goods.

CDT and Engineering in the 1980s There is no doubt, even among the most severe critics of the Finalism Committee report on Engineering Our Future, that we need to place an increasing emphasis upon the education and training of engineers, both to raise the general standard, and to gain that respect which will attract the highest calibre of student into the profession. Developments in the more advanced countries are towards an ever-increasing complexity in their technology requiring higher and higher standards of craft, design and technology. The developing countries are becoming rapidly more competent in meeting their own requirements for modern technology, further increasing the pressure upon the developed world to move towards the production of higher added-value goods and services.

The Council for Engineering Institutions represents 16 different professional organizations, embodying some 240,000 engineers, using an almost bewildering variety of skills, materials and techniques, and meeting an equally bewildering variety of problems in their work. There is, therefore, a need to consider very carefully the content of CDT teaching in our schools.

The terms craft, design and technology are all capable of a wide range of interpretation. I give below the CDT definition:

CRFT: "A calling requiring special skill and knowledge especially a manual art."

DESIGN: "A plan or scheme, conceived in the mind, of something to be done."

TECHNOLOGY: "The scientific study of the practical application of the word 'Techné' leads to the Sanskrit root 'Takh'—to form in the mind"—a relationship frequently forgotten in the consideration of technical training."

The intelligent use of manual skills requires a knowledge of materials, design, practice in the techniques of handling them. The craftsman may require several years of experience before he is fully competent. In previous generations much of this experience would have been acquired during the latter years of childhood, when the would-be craftsman would have been apprenticed to his master, perhaps at the age of 10 or 12. With the extension of general education to the age of 16 or 18 the opportunity to acquire this early practice in close association with working craftsman has been lost.

Schools should establish continuing relationships with the craft industries, enabling young people to acquire some knowledge of the skills, design, and the satisfaction of working with their hands. An appreciation of these skills and respect for the craftsman is essential to the work of the practising engineer. In this

respect, collaboration between the broadly educated craft teacher and the specialized and experienced craftsman is essential, providing links between the principles of the sciences and the practical arts of the crafts.

Techniques change rapidly and the practical application of skills to real problems frequently displays aspects of the craft of the master that cannot be brought out during simple school lessons. Fundamental techniques, teaching on the nature of materials, etc. are rightly the role of the teacher, but the continuing association with the practitioner is essential, and a progressive programme of work should be undertaken rather than relying on occasional visits to or by craftsmen.

A good designer has the ability to see the problem, to ask the questions, to produce some abstract image of the question in hand, and then to build around this from a knowledge not only of materials and techniques, but also of harmony and proportion, a satisfactory high quality product, anything from a cathedral to a pair of cuff links.

Once again, the importance of relating school work to the work of the competent practising designer cannot be over-emphasized. It is not sufficient merely to invite distinguished lecturers to speak to pupils, or to take pupils to exhibitions, these can frequently become just an opportunity to relax and do nothing for a few hours. The development of design exercises can link with other disciplines—history, science, geometry, music, art, etc.

The definition of technology combines the concepts of "study" and "practical". The technologist relates the designer's work to that of the craftsman, using the latest techniques of science and his tools. The master craft of the past contained within himself all the skills of the designer and craftsman, and used a limited range of technical skills in his work. With advancing specialization these three roles of designer, technologist and craftsman have become more distinct, and it is therefore essential that schools should appreciate each other's crafts and skills. The introduction of the concepts and tools of technology to school

children is closely linked to teaching of science and mathematics, to the use of simple equipment, experiment, to develop practical skills. Quantitative as well as qualitative training is essential, ability to comprehend modern techniques requires a standard of numeracy and a good grounding in science.

Young people grow up in a dependent upon sophisticated technology. A great deal can be done during primary and secondary education to provide the adult with an appreciation of the principles of design, manufacturing and technical skills that make the technology available and useful. It is at this time, the price of examination and competition, some of the tools and equipment common use should form part of educational process. Linking design and manufacturing elements will be of great value, arousing, and satisfying the desire to create for himself, a technologist can have the satisfaction of both designer and craftsman. This is essential if his influence on society is to be hard working, sit at a desk and empty the contents of a wastepaper parcel on a plate is pleasant sight.

The understanding and use of technology can be developed during the school years, coupled with well planned, numerical and scientific ability, may enable some to take place in higher education. There is not the opportunity in this article to examine in detail, but the possibilities of the work-experience programme of the introduction of personal mentors (in place of traditional craft or master), of a possible one or two year specialism, and of an increased acceptance of the continuation of education training as a lifetime process commend themselves for consideration.

James Armstrong is a partner architectural/engineering firm, a member of the Education Group and Engineering Committee of the Institution of Engineers.

Yesterday's Diners

Larry Wilson

Seven years, 1933 to 1940, the school dinner scheme, which my late father, Alec Moore, initiated as headmaster of the Alford Council School, was self-supporting and profitable. Throughout the examination and competition, kept at 2d a child each day, as the school saw that many of the pupils from surrounding villages, who would have broken their 730 cycle or bus to school at nine hours between their last and tea with a few sandwiches and perhaps a bit of cake from school's first annual report, "To see children, a hard morning's work, sit at a desk and empty the contents of a wastepaper parcel on a plate is pleasant sight."

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Christmas pudding; trifles. My father had no doubts about how to keep down the cost of the dinners: "A capable cook, careful buying and the elimination of waste," he used to say.

The children were closely involved in all aspects of the organization, as the report for 1935 explained: "They help to cook and serve the meal. Head prefects prepare a list of girls for duty. They type and post lists and menus. They telephone orders for foodstuffs. They count money and take it to the bank on Mondays and Fridays. They have a day book, cash book and ledger, and make appropriate entries each day."

"Girls grow flowers in the school gardens to decorate the tables; they make, mend, wash and iron overalls. Boys grow lots of vegetables and potatoes." During the first year the boys grew potatoes, carrots, peas, turnips, brussels, onions, dwarf beans in substantial numbers; plus 250 cauliflower, 250 cabbages and small quantities of lettuce, leeks, parsnips and beet.

The trading account for 1938-39 makes interesting reading.

Groceries 154 17 10
Milk 131 15 2
Meat 90 11 1
Potatoes 37 2 0
Fish 19 18 8
Bread 6 7 9
Wages 3 14 0
Eggs (50 dozen) .. 2 4 2
Bank Charges 17 0

Typical weekly menu was:
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll
Lentil soup, jam roll

Cheque Books 15 0
Balance 448 2 7
2d 11 2 3
2d 459 4 10
2d 284 4 2
2d 175 0 8
55,109 meals

In July 1939, the price of the meals rose for the first time—to one shilling a week. This resulted in a substantial balance of money to add to the large stock of food the school had been advised to acquire.

"We cannot say what the future has in store; though we may be sure that the parents of our village boys and girls will not be any better off."

After seven years of running the scheme, my father felt he could confidently say: "We are now in a position to make positive claims for cheap school dinners. Even this year, when we have experienced the most severe winter in living memory followed by an epidemic of German measles, the annual attendance has not fallen below 90 per cent."

"Apart from the benefits to health there is for us privileged to see it day by day real joy as we watch the children run with eagerness to the canteen. That is in itself all the reward we can desire."

In the morning's two talks were given. The first was by Andrew Ekwur, an Igbo writer who spoke on the cultural background to Chinua Achebe's novel *Things Fall Apart*. Mr Ekwur stressed the continuing strength of many of the beliefs, values and customs that were at the heart of Igbo culture at the time of European colonialisation, the period in which the novel is set. He spoke with the authority of one who has lived in and identifies himself with Igbo culture.

James Compton then spoke on *House for Mr Bissau* by Niall Paul. Mr Compton did not focus on the text itself, but rather on cultural issues that come out of reading it. Cultural pluralism brings contact, adaptation and borrowing, he said, and he saw in *Bissau* a dramatic illustration of the hopelessness of trying to preserve separate cultural identities in the West Indies.

In the afternoon, talks and discussions were offered on the remaining four books. The group I was in was led by Diana Bailey, who gave an extremely lucid analysis of Ngugi's work, focusing on his concern with land, religion, and education. She placed these themes in the context of Ngugi's development as a novelist, and more particularly in their place within Kikuyu culture, drawing intelligently on her own experience of working in Kenya. All three talks had the merit of broadening the discussion beyond the text to the cultures that produced them. However, paradoxically, this was also their weakness. Teachers committed to teaching these texts need the kind of background information that was provided here.

They also need to be directed towards the important cultural, historical and political questions that underlie or are raised by African and Caribbean literature. However, there are many teachers, and many of them were present, who remain to be convinced of the intrinsic merit of these books as literature.

This is not to raise the distinction between a broader cultural criticism and close textual analysis; rather it is rooted in the more mundane issue of what kind of literature is suitable for a level teaching. Teachers need to be convinced that African and Caribbean literature can sustain prolonged serious study that will focus ultimately on the text itself, and not merely on the background.

The speakers assumed this quality was self-evident, an assumption that can be justified from the texts themselves, but an assumption that has yet to be shared by the majority of a level English teachers. It seems the dissemination of the fact that much of the best and most exciting and progressive in English literature since the Second World War has been produced in Africa and the

Multi-cultural literature

Peter Traves

For the first time the University of London Board has included African and Caribbean literature in an A level English syllabus. Candidates for the summer of 1981 may be entered in the second of three papers for an African and Caribbean literature option answering questions on four of the following six texts: *Things Fall Apart*, Chinua Achebe; *The River Between*, Ngugi Wa Thiong'o; *The Lion and the Jewel*, Wole Soyinka; *A House for Mr Bissau*, V. S. Naipaul; *New Day*, V. S. Reid; and *Masks* by Edward Brathwaite.

In response to this new option, The Association for the Teaching of Caribbean and African Literature (ATCAL), in association with the Drum Arts Centre, organised a one day course for teachers who might be interested in teaching these texts. The course was intended to help teachers to familiarise themselves with these texts and the backgrounds from which they arise by offering specialist help on all six books and a chance to talk to other teachers who are already teaching this option.

The main problem from the board's point of view is an administrative one: how to find examiners who would feel confident enough to examine both the African and Caribbean books and the texts from the other options. Teachers made it clear that while the administrative problems might be real, they should not be allowed to stand in the way of opening the course up, and encouraging more teachers to take on African and Caribbean literature with their A level groups.

The African and Caribbean option came into being through the pressure of a group of London teachers who wanted to see multi-cultural literature in English included in the A level syllabus. "Multi-cultural literature" was taken to mean literature which, by the context in which it is produced or the themes it embodies, reflects cultural plurality or conflict.

This gives it a wider range of reference than African and Caribbean literature, though of course it includes it. Such an option in the A level could include black British and American writers, Irish and white "colonial" writers, Asian literature in English, and the literature of the American south, notably Faulkner.

To a large extent this demand for changes in A level reflects a growing, if belated, interest in multi-cultural education. In the lower school many teachers are concerned to provide a broader cultural base for the syllabus, and to draw on the richness of the multi-cultural classroom. This must be extended up the school.

The staff and the pupils must take on multi-cultural education at the highest intellectual level possible. To provide a few books with black faces at the 'easy reader' end of the scale is not enough. It is all too often a crude attempt at classroom control based on a deficit model of culturally plural classes. There must be teaching materials at all levels of complexity and sophistication. If multi-cultural education is to work.

In terms of English teaching, this almost certainly means that in the longer run we must press for more varied courses at the highest level, that will allow us to continue the more exciting language and literature work that is now taking place in many schools at all levels except A level. In the short term, the African and Caribbean option could yet mark a notable, if somewhat hesitant, step forward by the London Board. More confidence could be put into that step if they can be persuaded to overcome the administrative difficulties and modify the structure of the course.

Peter Traves is a teacher at Hackney Downs School, London.

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History is story

Elisabeth Henry samples a handful of modern studies of ancient history and finds both changing criteria and slipping standards

The Punic Wars. By Brian Caven. Weidenfeld and Nicolson £12.95. 297 77633 9.

The Living Past of Greece. By A. R. and Mary Burn. The Warburg Press, 65 Bolzle Lane, London NW3 5JY. £9.95. 906969 92 6.

The Battle for Gaul. By Julius Caesar. Chatto and Windus £3.95. 7011 2504 7.

The Prehistory of the Mediterranean. By D. H. Trump. Allen Lane £7.95. 7139 1304 5.

The Greeks Overseas. By John Boardman. Thames and Hudson £12.00. 500 25063 3.

Ancient Slavery and Modern Ideology. By M. I. Finley. Chatto and Windus £8.50. 7011 2510 1.

Early Greece. By Oswyn Murray. Harvester Press £14.50. 85527 640 1.

Roman Literature and Society. By R. M. Ogilvie. Penguin £1.95. 14 02 2081 X.

History is story (or so it sounds); even 50 years ago almost all history was narrative. Its merits were thought to be veracity, lucidity, and a vividness of style which could express the "spirit of an age". So Livy said that when he wrote of early Rome his own consciousness became "antique", while Carlyle described the French Revolution as uniquely hectic and ecstatic prose.

All this has changed; in no history more than the Ancient. Readers do not now expect to be admitted into a Secret Garden by the unfolding of a tale. Some tales, of course, are worth retelling, and these have been vigorous popular narratives such as Leonard Cottrell's, but without Cottrell's verve and sharpness of outline, narrative is no longer enough.

The new account of the Punic Wars for "the general reader" is a disappointment. It is in the tradition of Henderson or Grundy, but less stimulating than they were. The annalistic narrative includes all three Punic Wars; few books do this. Military affairs occupy Caven's attention; rather than social or political, his story is told and astonishingly flat. Polybius's more detached account is often preferred to Livy as main source. Yet some events—the battle of Trasimene, for example—we might think inherently charged with emotional intensity; in Caven they become quite ordinary.

In the last few pages there is an appraisal of the Punic Wars' significance for Europe. "It was beneficial for humanity that Rome was able to survive". Carthage was selfish and corrupt, Rome the standard-bearer of higher civilization. These categorical judgments are not what we lack when we complain that narrative is not enough.

Colour plates and high quality cartography are not essential either, though they do often attract today's "general reader", who is more

likely than formerly to know the Mediterranean landscape or to have seen original vase-paintings. The Living Past of Greece is far from a masterpiece, but it does give some details of ancient sites. There are no colour-plates, but very good maps and ground-plans. The arrangement is generally chronological, but with efficient indexing for travellers. The easy style, sometimes almost chatty ("what a tale for a film!" on the discovery of the Venus de Milo), should not mislead anyone into thinking this "just another guide-book".

The present emphasis on the visual is not simply the result of advances in transport or photography. It has arisen mainly because archaeology has developed both technically and quantitatively to transform our whole understanding of certain periods and cultures, and we now know that new discoveries may do this again at unforeseen points. One need only mention "Rome's Troy".

Characteristically, the admirable version of Caesar's Gallic War, by two Latinists, has an introduction partly by an archaeologist (Barry Cunliffe) who also selected illustrations. These include aerial photographs, relief maps, and reconstructions such as Caesar's Rhine bridge; unusual objects are evaluated as evidence, as well as identified. Thus an iron anchor found at Ballymore, Dorset, is shown beside a map marking discoveries of types of pottery and coins on both sides of the Channel, with trading routes in both directions. This is inserted at the opening of the campaign of 56 in Britain. It is a fair example of the way Caesar's book is presented—as a source of literary and archaeological evidence in continual close relationship.

The introduction reminds us of how Cicero described Caesar's purpose: "he intended to provide material for others to use in the writing of history". Not, surely, for a narrative of Gaul's conquest—no one is likely to better his own—but for studies of Romano-Celtic relations, perhaps, or methods of warfare.

Historical studies dealing with a topic rather than a period have until recently been more customary in France than in England. History after all does not sound like *contes* or *romans*; so the French are less likely to forget what the word does mean, namely coherent knowledge gained by enquiry, the Greek *historia*. Stories are a branch of history, not vice-versa. Many recent studies depart from chronology altogether, using the descriptive, comparative methods of Aristotelian "natural history".

The Prehistory of the Mediterranean deals with questions which cannot be precisely dated. What Trump looks at is the growth of farming, or burial-customs, "the pattern I have chosen, not the only possible one, is of interplay between wide diffusion and narrow regional specialization". Although no individuals emerge in this remote age (at least not under the Khnosos Snake-goddess) this book has the sense of humanity in it.

The revised *Greeks Overseas*, an authoritative work since 1964, includes more enlarge-

ment in the chapter *The Nature of the Evidence* than anywhere else. The explanation, for instance, of why stylistic sequences in pottery are valuable to the general historian is exact and vivid. The complicated subject is handled by geographical areas. This is often an intimidating volume; Greek temples in Sicily we expect, but tombs beside the Danube, and Assyrian motifs in seventh-century art? Some students will read Boardman from start to finish, but most will probably value his book for its wealth of reference and also for bedside reading—since Greek colonization is full of oddities beyond invention.

To see a master at work in the demanding discipline of modern historical study, one turns with something like awe to *Ancient Slavery and Modern Ideology*. This short book is far from easy reading, and has no illustrations of any kind. Developed from four lectures given in France in 1978, it embodies Finley's lifelong work on slavery, its origins as basis of economic life (as distinct from a recurrent feature of war) and its decline. This information is continuously related to judgments made upon it, especially by Marxists and anti-Marxists since the "prestigious", "omnipresent", and often "absurd" Eduard Meyer.

What is most valuable here is the demonstration of how a scholar can survey one element in ancient society, moving across old subject-boundaries, aware of the contexts in which earlier judgments were made, and using all kinds of evidence from manumission-inscriptions to Plautine dialogue or tenancy-contracts in the Theodosian Code. The mastery of unfamiliar material is perhaps most impressive in the last lecture, on the rudiments of feudalism. The change in the status and organization of Roman labour was gradual, uneven, and unconnected with any humanitarian movement, Christian or pagan.

The theme "Slavery and humanity" occupies Finley's third lecture. Though he does not aim at any recreation of a bygone world, such a world does come to life in his terse commemoration of Roman slaves who lived always totally subject, legally kinless, entitled to testify only after torture, sexually available to their owners, and yet accorded burial in ground *religiosa* in law, like the graves of free men. Finley's spare style eloquently expresses his awareness of the moral issues (far from simple). His English is arresting, too; not least in what seem to be coinages, such as "undeservably", "discussants" (not "discussants"?), and the devastating "climetricians".

Finley's pungency is his own, rather than a colouring taken from his theme, like Sir Ronald Syme's perhaps when he writes about Tacitus. Most historians now write a faceless prose, dateable by its constant use of the passive ("fragments were found...") and impersonal forms ("it says much for Greek

persistence that..."). These from a man, opened at random. The appeal to "express the age" seems to have even Oswyn Murray can use phrases "political viability" and "culture to

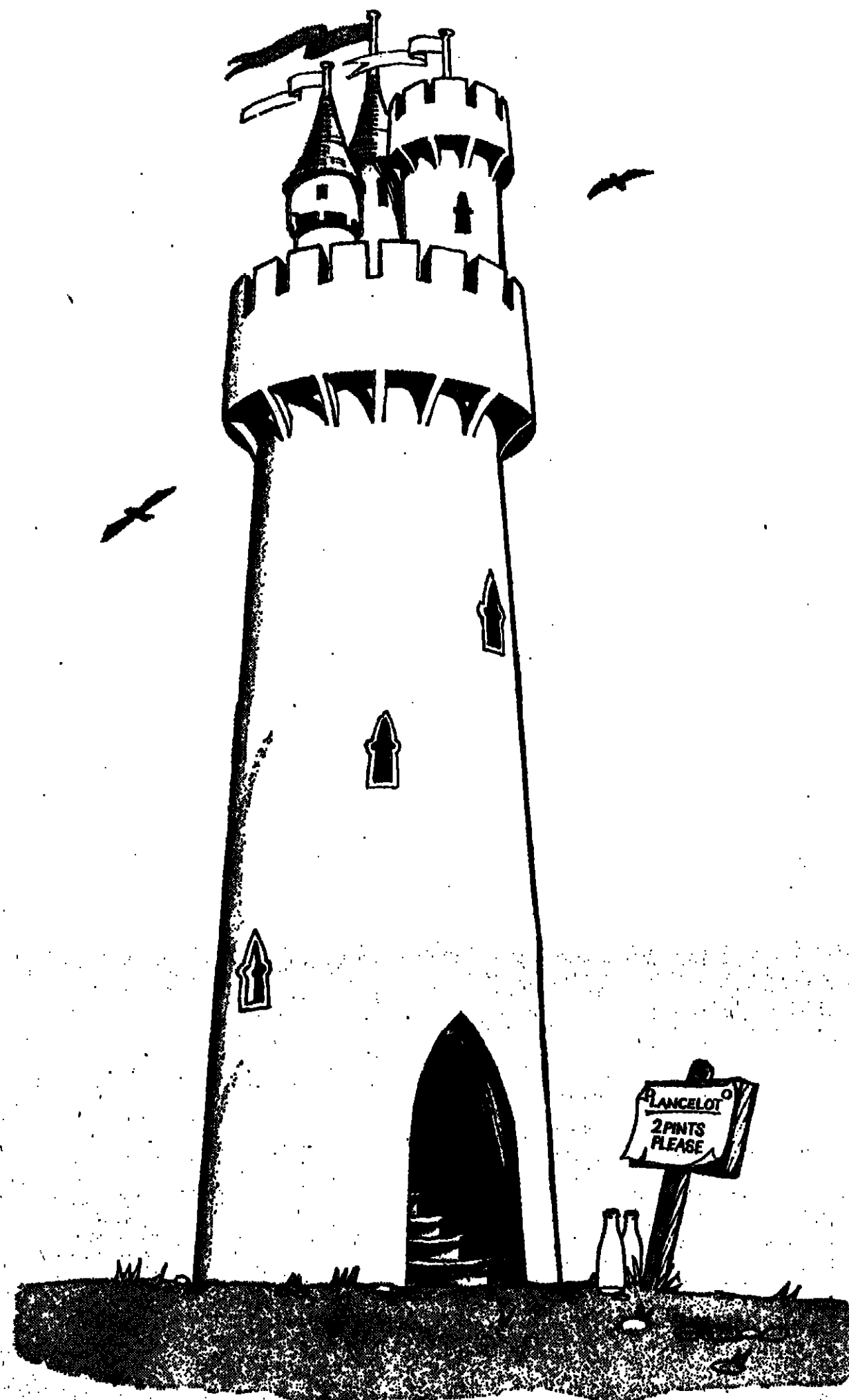
Early Greece belongs to the indigenous Fontana History of the Ancient World which Murray is general editor. This ambitious attempt to survey the whole showing what the evidence is and the particular problems of interpreting it is a period. Murray deals with the transition of the Hellenic world after the Age when Troy and Mycenae were ruins. He insists that the Eastern Mediterranean can be understood only as a fusion of these books, except for the explicit moral judgments on the past—in contrast to the ancient historians, who wanted to immortalize good and hold the bad up to the R. M. Ogilvie's book is literary history sociological emphasis (what sort of were Lucan's readers? What is or lyric—or history—convey to a senator, or to a cosmopolitan dilettante Lucian's day?) Ogilvie reminds us that written history is the product of curiosity and Italian moralism. For many today believe that their help men to improve their conduct, by precedents to follow or avoid. It is to put the ancient belief to the Greeks and Romans believed that it written with veracity, clarity, and punishment would inevitably enable to apprehend the past with more as intellectual understanding. It is much to claim for history today? Is too much for Murray's book, or Finley's?

In a TES article (April 11) John suggested that too much emphasis on the historian's skills might be actually in producing a shallow trend in examining for CCE Ancient History. Linking of the heart at the form Sources say... The way to danger surely is to offer direct access (as well as sources) writing by a creative mind. The books review presuppose some factual knowledge familiarity with broad historical at the elementary level, too, we need books which will use the approach gestated by this collection of ancient

For 1980.



Roman soldier: a relief from Nagonza, Italy.



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Application forms and further particulars from: R. A. Fennell, Assistant Secretary, Roehampton Institute of Higher Education, Richardson Building, Digby Stuart College, Roehampton Lane, London SW15 5PH. Closing date for receipt of applications: Friday 14 November, 1980.

COLLEGES OF FURTHER EDUCATION continued

SURREY

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Surrey, Surrey

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Applications should be sent to the Director of Education, Tameside College of Technology, Ashton-under-Lyne, Tameside, Cheshire.

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Wiltshire College, Wiltshire

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Salary: £5,000 to £7,700 per annum plus 10% London Allowance. The successful candidate will be offered a house and a car.

Applications should be sent to the Director of Education, Wiltshire College of Further Education, Wiltshire.

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Chichester College of Technology, Chichester, Sussex

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Applicants should be graduates with a degree in sociology or a related subject and have had experience of teaching and coaching in schools or colleges.

Salary: £5,000 to £7,700 per annum plus 10% London Allowance. The successful candidate will be offered a house and a car.

Applications should be sent to the Director of Education, Chichester College of Technology, Chichester, Sussex.

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WILTSHIRE COLLEGE OF FURTHER EDUCATION
Wiltshire College, Wiltshire

Required as soon as possible for a full-time post in the field of sociology. The successful candidate will be responsible for the delivery of lectures and seminars to students on the sociology course.

Applicants should be graduates with a degree in sociology or a related subject and have had experience of teaching and coaching in schools or colleges.

Salary: £5,000 to £7,700 per annum plus 10% London Allowance. The successful candidate will be offered a house and a car.

The Foundation of the International School of Geneva Headmaster/Headmistress

The Foundation is looking for a highly qualified person as Head of its School (former title "Director General"). Applicants should have demonstrated leadership in education, have experience of administration of a large educational institution, have teaching experience and a multicultural background with bilingual ability in English and French. The School has English and French primary and secondary education programmes serving some 2500 students in three locations around Geneva.

Applications (including curriculum vitae and stressing qualifications under the criteria above) should reach the following address no later than 23 November 1980:

Search Committee
Foundation of the International School of Geneva
62, route de Chêne, 1208 Geneva, Switzerland

EDUCATIONAL POSTS OVERSEAS

ENGLISH LANGUAGE INSTRUCTOR (Saudi Arabia)

Riyadh Bank, Jeddah.
Required for November 1980 or as soon as possible thereafter.

Duties: In-service training in English Language of Saudi banking staff.

Qualifications: Single men only aged between 23 and 30. One-year TEFL qualification, 3 years' overseas teaching experience and some experience in course design and materials preparation.

Salary: including personal, transport and superannuation allowances: SR70481-SR7629 p.a. (£8,888-£9,513 at £ = SR7.95). No local taxation and salary freely convertible into sterling. Annual increment.

Benefits: Free furnished accommodation; out-of-pocket allowance £174; incidental travelling expenses £80; baggage allowance £982; medical insurance; 45 days' paid leave per annum. Contract with British Council to 31 August 1981. Possibility of reappointment annually. 80A134-135.

2 LECTURERS/SUPERVISORS (ENGLISH LANGUAGE CONSULTANTS) (Singapore)

British Council Centre.
Duties: a) Leading materials Production and Design Team in Curriculum Development Workshop Projects. Teacher training at RSL, TESL level and English tuition at all levels. b) Teacher training at RSL, TESL level. English tuition at all levels. c) Design, testing and evaluation.

Qualifications: Candidates should be single with an MA in EFL or Applied Linguistics and have at least 5 years' EFL experience plus some experience of secondary school teaching.

Experience with video equipment would be desirable for post b). Salary: £5,016-£7,8

LONDON FEDERATION OF BOYS' CLUBS SENIOR TRAINING OFFICER

A vacancy exists for a dynamic person with experience of Training in the field of Youth work.

The Federation has two modern and well-equipped Training Centres and has a fine record of providing a wide variety of services to London youth. The successful person will have an important role to play in the servicing of clubs, whilst the prime function as Head of the Training Department will be to encourage and develop a progressive programme of member and adult training courses and events.

This is an excellent opportunity to join a professional, enthusiastic team. To do this job successfully you must be able to establish easy working relationships, communicate well at all levels, and share a strong commitment to training and helping "Tomorrow's Men".

Salary, related to Southbury (point on scale related to experience and qualifications). Car or allowance provided; L.V., subsistence allowance and assistance with housing and removal expenses.

Details and application form from R. E. Edwards, General Secretary, L.F.B.C., 121 Kennington Park Road, SE11 4JN.



YOUTH WORK MANAGER

Salary: £8,800/£7,700

The Cresset is a unique social and recreational community centre, situated in one of Britain's most exciting New Town Developments. The centre has special facilities for the elderly and the handicapped, as well as wide ranging leisure and educational facilities for the rest of the community.

We are looking for a dynamic person with skills and experience in Youth Work and Management to be a member of the senior staff team in this unique partnership of voluntary and statutory agencies.

The person appointed will be expected to hold a relevant professional qualification.

The Cresset Company Conditions of Service will apply which are comparable to nationally agreed professional Conditions of Service. Re-location expenses will be paid up to an agreed level.

For further details and application forms, returnable within 14 days of the appearance of this advertisement, please apply to The Director, The Cresset (Peterborough) Limited, Rightwell East, Bretton, Peterborough.

LONDON BOROUGH OF ENFIELD CAREERS SERVICE AREA CAREERS OFFICER

£7,026-£7,467 (under review)

Applications are invited from suitably qualified and experienced Careers Officers for the post of Area Careers Officer. The Officer appointed will be a team leader responsible for the work of a group of Careers Officers based at one of the Careers offices in the Borough.

Duties will include the overall development of careers programmes and the provision of careers information and vocational guidance in a group of schools; furthering relations between schools and industry by visits to employers; canvassing vacancies and advising employers about developments in education.

Consideration given to assistance with removal and relocation costs, temporary housing and 2-homes allowance.

Application forms and further details available from The Director of Education, PO Box 56, Civic Centre, Silver Street, Enfield, Middlesex, to be returned within 10 days of the appearance of this advertisement. Please contact Miss J. Hunter (01-368 8568, ext. 2738) for further information.

Education Department

CAREERS OFFICER

(Post E444)

Salary AP 8/4 £4,581-£5,784 per annum

Applications are invited from suitably qualified candidates to join a team of Careers Officers working from the Southern Area Education Office in Ipswich. The successful applicant will undertake the full range of a Careers Officer's duties.

Application forms and further details (please send a stamped addressed envelope) are obtainable from the Southern Area Education Office, Bond Street, Ipswich IP4 2JR, to whom they should be returned by 31 October 1980.

Suffolk County Council

OVERSEAS Appointments continued

MALAWI

PRIMARY SCHOOL TEACHERS
Applications are invited from suitably qualified persons for the post of Primary School Teacher in Malawi. The successful candidate will be required to teach in a primary school in Malawi.

There are four primary schools in Malawi, each with a headmaster and a deputy headmaster. The successful candidate will be required to teach in one of these schools.

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Bedfordshire Education Service Chief Inspector

Scale: Burnham Group 12
(£15,462 to £16,470 at present)

required from March, 1981, or later by arrangement

Applications are invited for this post as Head of the County Advisory and Inspection Service from candidates with broad experience at Senior Management level, either in the education service or within schools. The person appointed will be required to provide the energetic leadership and professional oversight to the County team of Inspectors and advisers. The Chief Inspector will be a member of the Education Management Team and will have the opportunity of making a distinctive contribution to the development of the Bedfordshire Education Service.

The post qualifies for an essential car-user allowance and the Authority also operates a car-leasing scheme. Approved removal expenses paid.

Application forms and further details obtainable from D. P. J. Browning, MA, Chief Education Officer, County Hall, Bedford MK42 9AP, or telephone Bedford 6922, extension 246. Closing date: November 3, 1980.



KENYA

Applications are invited for two new posts for a Technical Teacher Training and Course Development Programme in Building Services for the Harare Institutes of Technology.

TEACHER TRAINER IN BUILDING SERVICES
AND
TEACHER TRAINER IN RELATED SUBJECTS
c. £7,021-£10,104
(under review)

HNO/HND or FTC: Technical Teacher's Certificate Apprenticeship or equivalent in Plumbing for the vacancy and similar training in relevant field for second vacancy. Minimum three years post qualification industrial experience and two years F.E. teaching experience. Overseas experience an advantage. As members of a small planning team based in Harare, the successful candidates will be required to co-operate in developing curricula; assist in teacher training in their own specialisms and cover related subjects including mathematics, technical drawing, costing, supervision and management; be responsible for ordering and installation of equipment and departmental stores.

Appointments on contract to the Government of Kenya for 30-36 months commencing as soon as possible.

The salary includes a tax free supplement paid by the British Government under the aid programme. Twenty-five per cent terminal gratuity on basic salary; subsidised accommodation; educational allowances; and holiday with passages for children; an annual grant and interest free car loan are payable in certain circumstances.

Applicants, who should be citizens of the U.K. and preferably aged between 30-50, can obtain particulars and application form from the Recruitment Unit, TETOC (Technical Education and Training Organisation for Overseas Countries), 17/18 Essex Street, London SW1H 0DJ, telephone 01-222 8133.

Tetoc

NAMIBIA

The Rosing Foundation invites applications for four posts at the Arandis Secondary School, opened early 1981 with 210 children in 10 classes.

2 English 1 Maths
1 General Science

Qualifications: Qualified secondary teacher with minimum two years experience in subject of appointment. Young single teachers or teaching couples with children. Africa experience desirable. UK residents only can be considered.

Salary: Rands 6,510 to 9,750 p.a. paid bi-monthly (approximately £3,660 to £5,400). Benefits: Free accommodation in shared houses; free passages and medical treatment; terminal gratuity.

Post: Minimum 12 months with option to renew. The school is in a new village serving a variety of ethnic groups - a new concept in Namibia. Teachers will be expected to teach also in adult education classes and take a full share in extra-curricular activities in the community.

Interviews will be held 8rd-7th November. Appointments to be taken up between January and April 1981.

For further details apply with curriculum vitae to: Christians Abroad, 15 Tuford Street, London SW1P 3QQ.

ADMINISTRATION

continued

BUCKINGHAMSHIRE

GENERAL ARMY FIELD CENTRE
Applications are invited from suitably qualified persons for the post of General Army Field Centre in Buckinghamshire. The successful candidate will be required to manage the field centre in Buckinghamshire.

There are four primary schools in Malawi, each with a headmaster and a deputy headmaster. The successful candidate will be required to teach in one of these schools.

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ITEM WRITERS

BEC National Level Examinations

The Joint Examination Scheme of RSA/LCCI require item writers for their Examination Service for BEC National Awards. Lecturers, involved with BEC National Awards in Colleges of Further Education, interested in submitting questions, should write for further details, stating the specific Modules in which they have expertise, to:

Miss J. F. Davidson,
Administrative Officer,
Joint Examination Scheme of
RSA/LCCI,
Murray Road,
Orpington,
Kent BR5 3RB

THE ST. HELENS COLLEGE OF TECHNOLOGY

Principal: C. P. Gray,
B.A., D.M.S., M.B.M.

APPOINTMENT OF

COLLEGE LIBRARIAN

Applications are invited for the post of College Librarian. Candidates should be graduates with qualified Librarian status and should have significant experience, including some of work within a large College of Further Education. In addition to the Library duties, the post will involve some teaching and carries with it responsibility for the College Teaching Aids Centre.

The salary is that of a Senior Lecturer (£8,952-£10,530) and the Conditions of Service are those of Local Government Administrative, Professional, Technical and Clerical Staff.

Requests for application forms and further particulars should be in writing (and enclosed a stamped addressed envelope) to The Principal's Office, The St. Helens College of Technology, Water Street, St. Helens, Merseyside, W410 1PZ. Applications should be completed and returned within fourteen days of the appearance of this advertisement. Please quote Ref. No.: 21/T.

Training Officer

Salary £8900 p.a.

Hospital Corporation International, one of the world's largest hospital management companies, is looking for an experienced Training Officer to assist in developing a wide range of training programmes for health care personnel.

Applicants should have experience working with medical equipment, have assisted in the writing of course submissions for the Technicians' Education Council (TEC), and have produced or assisted in the production of tape/slides or video presentations. Preference will be given to candidates possessing a Certificate in Education.

This is a challenging opportunity for someone with a sound knowledge of training procedures who is able to identify training needs for our clients and our own personnel and develop in-service educational and curriculum programmes. Our parent company in Nashville maintains an active Training Centre and the successful candidate will be required to liaise regularly with his or her U.S. counterpart.

The person appointed will be based in London but must be prepared to travel within the U.K. and abroad. As a high proportion of foreign travel is likely to be within the Middle East, we feel that this post will best suit a male candidate.

Benefits include 4 weeks holiday, a season ticket loan scheme and health and life insurances.

Please write with full details of your career to date to:

